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ORIGINAL ARTICLES

SOME FOOTPRINTS OF A PREHISTORIC RACE.*

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The volume of the past is written in a language whose alphabet scientists have not yet thoroughly learned. We trace history back through the long cycles of its existence, until in Egypt the golden thread is lost and we grope in the gloom and darkness of unknown by-gone ages. Many are the races which once dwelt upon our earth, whose only story is told by their crude implements or weapons. Standing beneath the Pyramids, we gaze upon their summits almost piercing the clouds and marvel that forty centuries have passed since their cap-stones were set by an almost unknown race of people. But far below the soil forming the banks of the Nile are found relics which carry the inhabitance of Egypt so far back that the Sphinx becomes modern in comparison. Nor need we go so far from home. Previous to the time when this country was inhabited by Indians there roamed its prairies and wood-lands a race of people far superior to the Red man in mental development. Although at the time what is now known as the United States was discovered Nature held almost undisputed sway, yet evidences of their handiwork in the form of earth works were found, and, as the more important of these were mounds, they were given the name "Mound Builders." Whence they came is a question that has long, and will probably ever baffle the skill and ingenuity of the best scientists. Some disbelieving that the ancestry of all mankind can be traced to one pair, maintain that they were indigenous to this country and have relegated them to a position no higher than the droves of wild animals in the forests or the fishes of the rivers. But mounds are not found in America alone. In the words of another: "They are scattered over India. They dot the steppes of Siberia and the vast region north of the Black Sea. They line the shores of the Bosporus and the Mediterranean. They are found in old Scandinavia and are singularly numerous in the British Islands."

* Read at the meeting of the Military Tract Med. Society, Nov., 1905.

The remains of the Mound Builders in this country are found principally along the Mississippi, its tributaries and the Gulf of Mexico. Isolated works are scattered here and there, but evidences are not wanting to show that the headquarters of this people were situated near the junction of the Ohio River with "The Father of Waters." Doubtless the same motives which prompted our forefathers to settle along the rivers and water-ways induced the primitive inhabitants to make there their places of abode, for by so doing they could hold communication and commercial relations with distant tribes that would otherwise be impossible. Their works are so varied that to describe all the different kinds would far transcend the limits of this paper. Hence, only two or three of the more prominent classes will be described.

Burial Mounds: These vary greatly in size. One at Miamisburg, Ohio, is sixty-eight feet in height and eight hundred and fifty feet in circumference. Another at Grave Creek, West Virginia, is seventy-five feet high and almost one thousand feet in circumference. The average, however, is much less. A vault was constructed of timbers, sometimes set on end and sometimes laid up like a log house. Frequently slabs of stone were used. The dead were placed in the enclosure and then doubtless hundreds of willing hands helped to rear the pile which would not have been an unworthy monument to one of Egypt's Pharaohs. From traces that remain, it is evident that a matting of bark or thin strips of wood formed the couch on which the body was placed. In exploring the mound at Grave Creek, it was found that besides the vault on a level with the original surface of the soil, there was a second, thirty-four feet from the top, containing one skeleton. From these facts it is inferred that as members of the family died from time to time they were buried in the same mound, which was increased in size that it might conform to its new dignity. There were two skeletons in the first or bottom vault. One had no ornaments whatever, but the other was decorated with shell beads to the number of six hundred and fifty and a bone ornament six inches in length. The skeleton in the upper vault was adorned with rings of copper, mica plates and shell beads in profusion. Dr. Clemens, who was present when the mound was opened, says: "On carrying in the horizontal excavation at a distance of twelve or fifteen feet were found numerous masses of charcoal and burnt bones. On reaching the lower vault from the top it was determined to enlarge it for the accommodation of visitors, when ten more skeletons were discovered. Here, beyond doubt, was a royal sepulcher. Human beings were offered as sacrifices and the magnate's servants or relations were slain that their spirits might accompany his in its journey through the misty vales of the unknown shadowy land."

Effigy Mounds: These are found mostly in Wisconsin, and this has led many to believe that here was the home of an entirely separate people. While it may be admitted that the works vary in different sections, yet there is a resemblance, a sameness of construction which precludes the possibility of distinct peoples. Among the animals represented are the buffalo, wolf and fox. The feathered tribe has its quota, shown by the

hawk and eagle; the reptiles by the lizard and turtle. Only two cases are mentioned in Ohio which are described by Squier and Davis. "The first is the great serpent with its head conforming to the crest of a hill, and its body winding back for seven hundred feet in graceful undulations, terminating in a triple coil at the tail. The second is the alligator. From the point of the nose following the curves of the tail to the tip is about two hundred and fifty feet, the breadth of the body is forty feet, and the length of the legs or paws each thirty-six feet." The former is in Adams and latter in Licking County. It is difficult to determine just why these effigies were made. Whether each tribe believed itself to have descended from some bird, beast or reptile and erected a monument to that particular object, or whether the animals themselves were worshiped, are questions about which we can do nothing but conjecture.

Works of enclosure: By far the most extensive are those at Newark, Ohio. Here are two circles, a square and an octagon, also mounds and parallel road-ways in profusion. The first circular embankment is twelve feet high, fifty feet wide at the base with a ditch on the inside seven feet deep and thirty-five feet in width. It is not a true circle, the diameters being twelve hundred and fifty and eleven hundred and fifty feet. Almost thirty acres are enclosed. The second circle is perfect, half a mile in circumference, but has no interior ditch. It incloses twenty acres. The square is not perfect. Each corner is marked by a low mound. In area it is nearly twenty acres. The octagon has eight entrances, each marked by an oblong mound five feet high, eighty feet wide and one hundred feet in length. Fifty acres are enclosed. The first circle is connected with the square by a broad avenue defended by low walls on either side. A similar passage about a mile in length leads to the octagon which is joined to the second circle by a road-way sixty feet wide and three hundred feet long.

Many other works belong to the same system, but space forbids their description. They must, however, be considered among the most stupendous works of either antiquity or modern times. Work with teams and scrapers is not fast; pick and shovel are slower still, but how infinitely slower must have been the labor of those who performed such gigantic works with no implements save stone and copper hatchets and willow baskets? Two things are proved by these remains, viz.; that they were an agricultural people and had reached a high state of barbaric development. It is not customary for wandering tribes to till the soil to any great extent or erect dwellings beyond the most temporary sort. But this people must have derived sustenance in a large measure from the soil and have had a fixed habitation or they would not have remained in one place long enough to commence such immense works to say nothing of carrying them almost to completion. There must have been some central government. Generally a chief controls a few hundred at most, but here was the labor of thousands, and some master mind planned and some master hand executed the work. We read that the pyramids were built by forced labor; so, possibly, before America was known to history, slaves and prisoners of war, month after month and year after

year, drudged out their weary lives heaping high the monuments of a people which even legend and tradition have forgotten.

Another interesting study is the heaps of shells found in Louisiana, Florida, and other places. Those in Florida vary from conical heaps fifteen or twenty feet in diameter, to ridges hundreds of feet in length. Scattered through these implements of various kinds and occasionally a skeleton is found. The shells bear evidence of having been opened in some crude manner as by crushing, rather than by a sharp instrument having been inserted, thus leaving each half whole. These heaps have caused much comment, but scientists generally agree that they are the remains of some great feast. Year after year the Mound Builders held feasts at the places where the shells are found, the refuse meanwhile accumulating until its immensity almost staggers belief. The skeletons found are only accidental. At the feast some one has died and, not wishing to stop the festivities, his companions have buried him in the cheapest possible manner, by covering him with shells. Weapons were mostly of stone, axes, arrow and spear heads being made of that material. Copper was used for weapons and ornaments. It was generally hammered into shape. Occasionally, evidences are found of its having been melted, but they are rare, and we must conclude that, for the most part, smelting was unknown. Implements were also of stone, and household utensils were made of burnt clay. Pipes are found, thus showing that the Mound Builders well understood the use of tobacco. The pipes were carved from very hard stone in the most artistic fashion. Human faces are not infrequently found represented which show a skill far beyond that of a mere tyro. A hawk is represented preying upon a smaller bird, and an otter bearing off a fish in its mouth. From the large amount of work necessary to carve out a pipe we are led to conclude that tobacco was as great a luxury then as now. Well has some one said: "To know the whole history of tobacco, of the custom of smoking and of the origin of the pipe would be to solve many of the most interesting problems of American Ethnology."

In religion, Mr. Foster says: "The Mound Builders worshiped the elements, the sun, the moon and particularly fire. They erected their fire altars for sacrifice on the highest summits." Various other evidences are found to strengthen this belief, but of course so far as discoveries have yet been made, it can not be positively asserted. But whatever may be said concerning their worship, belief in a future state is plain, for around the corpses were placed those implements which had been useful to the deceased during life, that they might still be of service to him when the spirit land was reached. Vessels, too, which are supposed to have contained food, are found, beyond a doubt placed there by loving hands and replenished from day to day in order that the deceased might not hunger in his long journey to the unknown shore. No writing is found, not even hieroglyphics. Why a people so far advanced in many things should lack some kind of sign language is indeed a mystery. In all likelihood they were progressing, but before the point of written communication was reached they were, by some force or other, blotted out of

existence. Knowledge of mensuration was understood, for circles and squares geometrically correct are numerous. We see from their works that their numbers must have been large, and extensive commercial relations existed, for in one of the tumuli on the banks of the Ohio were found obsidian from Mexico, fossils from New Jersey, copper and silver from the shores of Lake Superior, and shells from the Gulf of Mexico. Mining was quite extensively carried on. Mr. S. O. Knapp, in the employ of the Minnesota Mining Company, made some highly surprising discoveries in the year 1848. Observing some excavations, which he was sure were artificial, he explored them. One was over twenty feet deep and almost filled with débris. At a depth of eighteen feet he came upon a mass of copper ten feet long, three feet wide and almost two feet in thickness, weighing over six tons. Excavating around the mass he found it to rest upon small timbers laid up cob-house fashion. The wood was soft from its long exposure to dampness, and earth packed in beneath sustained the weight of the copper. The lump had been raised several feet when the primitive miners gave up the arduous task. Mr. Knapp took from several excavations over ten cart loads of stone mauls. These ancient implements were of green stone and porphyry. A groove was cut round a block of stone and a withe fastened in the groove formed for the Mound Builders what the modern miner calls a sledge. One weighed thirty-nine pounds. No mounds are found in this vicinity, which leads us to believe that these places were visited during the summer months for the purpose of mining copper. From a mound near Chillicothe, Ohio, large plates of mica were obtained, some a foot in diameter. It was long a mystery where this came from, for though abundant in many places, its size did not compare with that taken from this mound. In 1872, Prof. Kerr, of the Geological survey of North Carolina, explored some pits which bore unmistakable evidence of having been made for the purpose of mining mica. There is now no reasonable doubt but that this was done by the Mound Builders.

When they came is as puzzling a question as whence. The savage has not the slightest tradition, and the boldest scientist would not be presumptuous enough to risk his reputation on a date. On a mount at Galena, Illinois, is the stump of an oak tree cut down sixty years ago which showed the tree to have been at least two hundred years old by its rings. Mr. Knapp felled a hemlock, growing on a heap of mine rubbish, which had three hundred and ninety-five rings of annual growth. Near Silver Spring, Florida, are half a dozen live oaks growing on a heap of shells, which at a distance of five feet from the ground have a circumference, one of thirteen, three of fifteen, one of nineteen and one between twenty-six and twenty-seven feet. The latter, however, has been destroyed in the last few years. Yet these do not tell us when the mounds were erected. Nature is ever changing, tearing down and building up. Forests spring up, wax old and decay, and, for aught we can tell, twenty centuries of forest dust intervenes between the trees which we now behold and the time when the Mound Builders flourished. So nearly indestruct-

able is a mound of earth that it is not impossible that these were reared when the pyramids were infants. If man wishes a lasting monument let him heap up a mound of earth, sow grass seed upon it and he will have a mausoleum standing centuries after contemporary obelisks of marble and granite have crumbled to powder.

In 1838 the skeleton of a mastodon was exhumed by Dr. Koch in Gasconade County, Missouri. The bones gave evidence that the animal was mired in the soft river bottom, for the bones of the legs were in an upright position. The bones of the upper part of the body were more or less powdered by fire which, proofs were not wanting to show, had been built by human hands. Judging from the ashes the fire had been of long duration and most intense about the head. In and around the skeleton were found stone axes, arrow heads and one spear head. The story as given by these mute witnesses of by-gone years is simple. The huge creature had been mired in the mud and while in this condition was attacked by the Mound Builders, who, unable to kill it with the crude weapons, had resorted to fire.

We can not tell the exact time when they first inhabited this country, but we can surely assert that they were contemporaneous with the mastodon, megatherium and cave bear.

Their going was as mysterious as their coming. Some have thought that the Mound Builders of the Mississippi Valley, retreating south before the onslaughts of some more war-like people, became the Aztecs of Mexico and Peru. If so, Spanish greed for gold has forever destroyed the scientists' last hope of learning their ethnologic similarities, and silence will continue to hold sway over facts which, if brought to light, would rival the boldest tales of fairy-land or fable. No historian has recorded their progress and downfall. No sculptor chiseled the form of their heroes. The battle songs are hushed, the conquests of the victor are not applauded, and he lies side by side with the skulker. No poet sings of womanly virtue. Unheralded they came, unheralded they went, and only their works remain telling us of a once powerful people, and standing like mute sentinels along the highway of time keeping watch over the flight of time and lapse of ages.

"Thou unrelenting past,
Strong are the barriers round thy dark domain,
And fetters sure and fast,
Hold all that enter thy unbreathing reign.
For in thy realm withdrawn,
Old empires sit in sullenness and gloom,
And glorious ages gone,
Lie deep within the shadow of thy womb.
Full many a mighty name
Lurks in thy depths, unuttered, unrevered,
With thee are silent fame,
Forgotten arts and wisdom disappeared."

GROSS ABNORMALITIES OF THE APPENDIX VERMIFORMIS, NOTED IN 3,550 AUTOPSIES.*

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Anatomical, pathological and clinical data concerning the appendix vermiformis are always of a practical interest to the medical practitioner. The frequency of pathological conditions in this organ, be they of a degenerative, of an inflammatory or of a neoplastic nature, is responsible for the many studies which have appeared on the appendix vermiformis. There are normal conditions, locations, sizes and general relations of the appendix. Any deviation from the normal we consider abnormal. How can the nature and the frequency of these abnormalities be determined; be they abnormalities in location, in size, in general relations or in anatomical integrity? By the comparison and the discussion of observations made in the dissecting room, on the operating table and in the postmortem room. This paper is based exclusively on observations made in the latter. The postmortem records of 3,550 consecutive and unselected autopsies held in the Cook County Hospital between Jan. 1, 1893, and Dec. 30, 1905, inclusive, were examined. These postmortems were held on patients who died in the institution. An autopsy in this institution can only be held in the absence of protest from friends or relatives. No special space in the records was allowed to the appendix until the year 1896. Before that time the nature, the frequency and the importance of inflammations of this organ were not as fully understood and as fully appreciated as they are now.

The frequency of adhesion of the appendix vermiformis to neighboring structures and organs impressed us. The appendix vermiformis was found adherent to neighboring structures or viscera 486 times. It was not possible to determine accurately in what proportion of cases the condition of "adherent appendix" was due to a previous inflammatory process of the appendix; or to a previous inflammatory process extending to the appendix from adjacent structures, in which it had originated. These adhesions are of interest to the clinician, to the pathologist and to the surgeon. They are frequently the cause of obscure abdominal pains, obscure as to correct interpretation, due to adhesions to colon, to small intestines and to the abdominal wall; of digestive disturbances, due to adhesions to stomach, liver, gall bladder. They may be the cause of vesical or of rectal tenesmus, due to adhesions to the urinary bladder, to the sigmoid flexure of the colon or to the rectum.

Adhesions may lead to kinking, to twisting, to obstruction of the appendix, to interference with its circulation, to impairment of its peristaltic action; they may be the means of extension of an inflammatory process from the appendix to the structure or the organ to which the appendix is adherent; they may make the appendix serve the office of a band over which a loop of intestines may become kinked or beneath which a coil of gut may become looped; in either case intestinal obstruction or

* Read before the Chicago Med. Society, Feb. 7, 1906.

strangulation results. The appendix may lie concealed in a mass of adhesions.

In 145 cases of chronic adhesive appendicitis examined and analyzed at the Boston City Hospital, 118 showed no evidence of any abdominal condition to which adhesion could be referred other than a prior inflammation of the appendix. Hence they can be considered cases of primary chronic adhesive appendicitis. In 27 cases other sources for the adhesions could be ascertained causing secondary chronic adhesive appendicitis, as salpingitis, hydrosalpinx or myoma of uterus; in 3 cases, carcinoma of the uterus, with other pelvic structures; in 3 cases, disease of the gall bladder; in 2, tubercular peritonitis, etc. These adhesions always prolong the operative intervention and may lead the surgeon to completely modify his technic in appendectomy, as for instance, in those cases in which the appendix is so closely adherent to the wall of the cecum that it appears almost a part of it and can not with safety be separated from it. In such cases, the appendix may be split lengthwise and its mucous membrane removed and ligated at its junction with the cecum, and the wound in the appendix sutured.

The analysis of 486 cases in which the appendix was adherent shows the following:

	Cases.
Appendix adherent to cecum in	357
" " " psoas muscle	44
" " " hernial sac	5
" " " omentum	16
" " " small intestines	18
" " " ascending colon	10
" " " parietal wall	18
" " " brim of pelvis	8
" " " rectum	2
" " " sigmoid flexure	1
" " " stomach	1
" " " liver	2
" " " urinary bladder	1

In the cases in which it was adherent to the psoas muscle, in some the course of the appendix was parallel to the long axis of the psoas muscle; in some transverse to it; in others oblique.

In cases of adherent appendix, not included in the above, the appendix was adherent to more than one structure.

Cunningham says: "The following locations of the appendix vermiformis have been considered normal by one or more observers: 1, over the brim, into the pelvis; 2, upward behind the cecum; 3, upward and inward toward the spleen." In these 3,550 cases it is reported that the appendix was located, partially or wholly, in the true pelvis 155 times. This fact shows the utility of rectal and of vaginal examinations in suspected cases of appendicitis; it explains the frequency of pelvic abscesses in suppurative inflammations of the appendix vermiformis, and the rup-

turing of some of these abscesses into the uterus, into the rectum, into the urinary bladder, etc.

The appendix vermiformis was found in a hernial sac five times, Cases 6182, 6924, 5245, 5344 and in Case G. B., June 26, 1896. In each of these cases we were dealing with a right inguinal hernia. In one the appendix was the only viscus present. In two others a part of the cecum was present in the hernial sac, with the appendix, and in the fourth small intestines and the appendix vermiformis formed the contents of the hernial sac. All these herniæ were irreducible owing to the presence of adhesions. In one of these cases (5245) many concretions were found in the appendix.

The appendix was retroperitoneal in 12 cases. A retroperitoneal appendix is liable, if it becomes inflamed, to cause a retrocecal or retrocolic abscess. Retroperitoneal vermiform appendices play an important part in the causation of subphrenic abscesses. Kelly and Hurdon say: "The question whether the appendix is an intraperitoneal or extraperitoneal organ is chiefly decided by the position it assumes in relation to the cecum or colon, whether it is downward or upward; or, in more correct expression, early fusion between the colon and the posterior abdominal wall is apt to produce an ascending or retroperitoneal appendix, while late fusion brings about a pendant intraperitoneal appendix."

In Case 5259 the patient was 6 months old. The appendix was found in the ascending colon. The lower end of the ileum had passed upward through the ileocecal valve with the cecum into the colon. The appendix at its attached end had been inverted with the bowel. The half below the constriction was gangrenous. In Case 6432 the appendix was herniated through its own mesentery. It was not the seat of adhesions. In Case 5750, a case of gangrenous appendicitis, the cecal end of the appendix opened into a large abscess cavity in the liver. The opening in the appendix corresponded to the site of the liver abscess.

In 20 cases the appendix was partially or completely obliterated. It is said that total obliteration of the canal insures perfect immunity from further attacks, but that if any portion remains pervious there is an increased predisposition to other attacks. In nine of these cases obliteration was due to an inflammation; in the others it was not determined whether the obliteration was inflammatory or involutionary in nature. In one case constriction was proximal to a concretion; in another the appendix contained mucoid material distal to the constriction; in one the end distal to the constriction contained pus. The appendix was found kinked in 20 cases. Some of these bends and kinks were due to inflammatory adhesions; some were due to a shortened meso-appendix. In 10 of these cases the kinking was inflammatory in origin; in the others reports are too meager to state the causes. Constrictions of the appendix were noticed in nine cases. They were all due to previous inflammation of the organ.

In these reports no case of supernumerary appendix is recorded. No case of absence of the appendix not attributable to appendectomy or sloughing was seen. Absence of the appendix due to operation was noted 21 times.

The size of the appendix is more variable than its position. Kelly and Hurdon agree with Ribbert, Berry and others in placing the average length of the appendix at about 8.3 cm., or between three and three and one-half inches. Schlange, in von Bergmann's Practice of Surgery, gives the average length as 9.2 cm., equal to 3½ inches. In Case 6656 the length of the appendix was ½ cm.; in Case 6791 the length of the appendix was 3 cm.; in Case 7073 the length of the appendix was 3 cm.; in Case 6107 the length of the appendix was 21 cm.; in Case 5616 the appendix was normal, but was 9 inches in length.

In the case of Isaac Williams, posted April 26, 1895, the appendix is recorded as having been 10 inches long. Long appendices are frequently bent on themselves or drawn up by the shortness of their mesentery into various bizarre forms, as figure-of-eight or spiral.

Foreign bodies were found in the appendix vermiformis as follows: Grape seed, one case; fishbone (1½ inches in length), covered with concretions, one case; enteroliths, 25 cases. By enteroliths we understand fecal material which has undergone desiccation. The ordinary or normal appendix may contain fecal material similar to that found in the adjacent large intestine. Bryant found fecal matter in 70 per cent. of his adult specimens. In some of the cases reported above the enteroliths were single, in others multiple. In Case 5030 there were two large and several small concretions.

In these 3,550 autopsies the appendix vermiformis was reported to have been the seat of tubercular lesions ten times; Cases 5507, 6701, 5275, 5421, 6499, 6504, 6779, 6225, 5104, 5982. A fact worthy of note is that in each and every one of these ten cases the tubercular lesions in the appendix coexisted with tubercular lesions elsewhere in the organism; that in all of these cases tuberculous pneumonitis of one or the other variety was invariably present. Not one of these cases of tuberculous appendicitis was primary. They were all secondary, either by continuity of tissue, as extension from tuberculosis of neighboring coils of intestine, or by vascular transplantation. We are forced to state that tuberculosis of the appendix vermiformis is but exceptionally primary and isolated. In four of these cases the organ was free and non-adherent; in six it was adherent to some neighboring structure. In some of these cases the tuberculous process in the appendix vermiformis had led to the formation of caseous areas; in others to ulcer formation; in others simply to the formation of tuberculous granulation tissue. In some the process was limited to the internal coats; in others to the external coats; in others it involved all coats. In all these cases the tuberculous appendicitis was not productive of symptoms sufficiently marked to lead to its diagnosis during life.

In two cases, 5305 and 5912, the appendix was the seat of typhoidal disease. In both of these cases typhoidal lesions in other parts of the abdomen coexisted, as in the intestines, mesenteric glands, spleen. In Case 5305 there was submucous hemorrhages; in Case 5912 ulcers were present. In Case 5272 there was a cavity between the folds of the mesoappendix, communicating with the lumen of the appendix, and containing thick pus.

The appendix was found, in 41 cases, to be the seat of acute inflammation, non-suppurative in character, that had not been pus-producing. In six cases pus was found in the cavity of the appendix, that is, in 6 cases we had an empyema of the appendix.

The appendix vermiformis was found three times to be the seat of neoplastic disease (Cases 6200, 6178, 6002). In each of these cases the neoplasm was a carcinoma. In each the appendix had been involved secondarily by the neoplastic process. In each the primary tumor was in the stomach. Benign neoplastic or sarcomatous change in the appendix was not found in any case. In two of the cases reported the tumor was apparently secondary by vascular transplantation; in one, secondary, due to extension by contiguity, the appendix being adherent to the stomach by the tumor mass.

The following figures show the great improvement in the understanding of indications for operation in appendicitis and for the performance of the various operations for this condition that has taken place during the last decade: Between the years 1893 and 1896 there came to the autopsy table at the Cook County Hospital 19 cases which had been operated on for appendicitis and in which suppurative peritonitis was present, while between the years 1896 and 1905, inclusive, there came to the autopsy table only five such cases. The operation performed in those days is best understood and appreciated by the following table taken from the postmortem records: Case of L. Jackson, March 20, 1895. In the right iliac region wound is found 7 cm. long, partly closed by sutures. Through this incision protrudes a loop of intestine and a gauze drain; appendix was found adherent to psoas, and had a perforation at lower third.

Operation for appendicitis. Case of L. Jones. Examination Feb. 10, 1895. In the abdominal wall in the median line an incision about four inches in length was found, packed with iodoform gauze. Omentum and intestines were matted together. Appendix was bound down to psoas and was red in appearance. Constriction about ¾ cm. from tip.

General suppurative peritonitis. Case of J. G. Simons, Feb. 4, 1893. Appendix, colon and omentum found adherent in right iliac region. Appendix surrounded by granulating tissue. Looks, on separating adhesions, like a large ulcerating cavity.

Case of Joseph Kubat, April 7, 1895. In right lower quadrant 8-inch scar was found; omentum adherent to peritoneum under scar; appendix present and adherent to abdominal wall.

These postmortem records confirm the following facts concerning the appendix vermiformis: 1. It is almost always an intraperitoneal organ; exceptionally it is extraperitoneal, and then usually only partly so. 2. It has been found in nearly every portion of the abdominal or pelvic cavities. 3. It may form the contents or part of the contents of a hernial sac. 4. Its presence in a hernial sac does not render it immune from the lesions to which it is subject when normally located. 5. It may be adherent to any intraperitoneal organ or structure. 6. It may be adherent to some extraperitoneal structures, kidney, retrocolic cellular

tissue, etc. 7. Pathologic conditions have been found which seem to indicate that inflammations can extend from it to neighboring organs and structures to which it is adherent, and *vice versa*. 8. In diagnosing obscure abdominal and pelvic conditions the probability of a previous or of an existing appendicitis must be considered. 9. Pus may be present within the cavity of the appendix, within the walls of the appendix, or the condition of peri-appendiceal abscess may occur. 10. Inflammations of the appendix may terminate in resolution, in adhesion formation, in obliteration of the appendix, partial or complete, in interstitial thickening, in gangrene, ulceration and perforation of the organ; may terminate in suppuration. 11. One attack of appendicitis predisposes to other attacks until complete obliteration of the lumen of the appendix has taken place. 12. The condition of supernumerary appendix does not occur. 13. Congenital absence of the appendix, if it occurs, is so infrequent as to be ignored from a clinical standpoint. 14. The appendix may vary in length from ½ cm. to 26 cm. 15. The lodgment of foreign bodies in the lumen of the appendix is an infrequent occurrence, only two cases, excluding enteroliths, having been observed in 3,560 cases. 16. Neoplastic disease of the appendix is uncommon. We are inclined to think that neoplasms of the appendix are almost always secondary either by continuity or contiguity of tissue or by vascular transplantation. We have never met with a primary case. Primary cases, however, have been reported. 17. This organ may be the seat of lesions of the same nature as can occur in other portions of the alimentary canal, viz., typhoidal, tubercular, actinomycotic, dysenteric, etc. 18. Tuberculous appendicitis is almost invariably secondary. 19. The lessened frequency during the last decade of diffuse suppurative peritonitis following operations for appendicitis is due, first, to the more exact diagnosis; second, to earlier operation; third, to excision of the appendix and of its mesentery in cases not complicated by peri-appendiceal abscess; fourth, to better and more perfect technic on the part of the operator. 20. Surgical intervention should be limited, in cases of peri-appendiceal abscess, to incision and evacuation and drainage of the pus cavity if the appendix be not easily accessible.

A PLEA FOR THE OPEN TREATMENT OF FRACTURES.

G. M. Peairs, M.D.

JOLIET.

It has been my lot to attend, during the past few years, a great many fractures, and I have had a rather varied result until I adopted more radical measures to secure better results. The use of the *x*-ray for diagnostic purposes has led many surgeons to realize that their best efforts produced but poor results. The difficulty of securing complete reduction and perfect approximation is shown. Exuberant callus proved to be displacement of fractured ends or comminution of fragments at the seat of fracture. Scudder's statistics in non-operative cases show poor results in 81 per cent. of fractures of the hip, in 69 per cent. of fractures

of the thigh in adults, all in old age; in 60 per cent. in closed fractures of the leg and in 79 of compound fractures. The financial depreciation of a patient who is a mechanic has been estimated to be about 70 per cent. in fractures of the tibia and fibula. Since antiseptic methods of treating compound fractures have been generally used the mortality has fallen from 68 per cent. to 2 or 3 per cent. These figures must remove the former opposition of surgeons to the open method of treating fractures.

With these facts before us, we ask, What is to be gained by this method? We gain accurate apposition of fractured ends, prevention of subsequent deformity, retention in position of the bony fragments, prevention of exuberant callus, of non-union and pseudoarthrosis, more rapid recovery, lessening of pain due to irritation of fragments not properly approximated, full length of the fractured bone, better knowledge of proper application of proper retaining splints. The disadvantages of the open method are liability to infection, presence of scar and possibility of necrosis of the ends of the drilled bones. The disadvantages are greatly outweighed by the advantage gained.

What may be overlooked by the closed method? Interposition of fascia, muscles, vessels, nerves, comminuted fragments and blood clot, which may be troublesome if infection takes place, and improper alignment of the bones. All compound fractures should be treated by the open method and certain simple fractures should be made compound, viz., those of the patella, olecranon, oblique and spiral fractures of the tibia, clavicle with marked displacement, those of the skull with depression, upper third of the humerus and possibly supracondyloid of the femur. No surgeon should undertake this operation unless his experience has taught him the value of asepsis, and then only in a hospital or such private residence as affords a room capable of being converted into a proper operating room. Not one surgeon in this assembly will hesitate to open the abdomen for appendicitis, in the belief that the patient will recover, yet some of these same operators will hesitate to open a fractured leg for fear of infection. The danger of infection is practically *nil* if properly done, and unless so done it had best not be done at all.

We will first consider time for operation and later the technic. In certain varieties of fractures, in which experience has proven that perfect position and retention can not be secured by conservative means, an operation should be done at once or after an *x*-ray examination has been made. These include fracture of the olecranon, patella, spiral fracture of the tibia, etc., unless the patient is suffering from severe shock from the accident, as well as compound fractures. By so doing, reduction will be easily and positively accomplished and interposition of muscular tissue will be avoided, the full length of the fractured bone is preserved and time for repair is shortened. If shock be present and there is an abundant effusion of blood, the operation may be postponed a few days until the blood is absorbed, thereby lessening the danger of infection. If the operation is done at once, it is necessary to leave a drain to permit the escape of the blood. When the operation is delayed a few days or has been done secondarily for non-union, I do not employ a drain.

Technic of the operation. The skin for a considerable distance above and below the seat of fracture is scrubbed with green soap, shaved and followed by ether, alcohol and bichlorid. In recent compound fractures I enlarge the opening made at the time of the accident. In simple fractures I make an incision best suited to the case. Unless in the vicinity of large vessels, exsanguination by the tourniquet is not practiced, but bleeding is controlled by the hot sponges and forceps as it presents itself. Bleeding and the formation of large blood clots may follow the use of the tourniquet. This causes much pain and may saturate the dressings, necessitating their early removal. Make the incision large enough through the skin to expose the fractured ends and bring them through the wound if necessary. Separate the muscles in natural layers instead of splitting or cutting them. Detached fragments of bone should be removed. Bring the fractured ends into apposition and drill through the entire bone, not into the medullary canal as advised by some operators. This will prevent twisting of one fragment on the other and poor alignment. I use any of the modern instruments for drilling, such as the Brainard or Hamilton or ordinary carpenter's drill. The drill holes should be about one-fourth of an inch from the fractured ends. Many forms of sutures are used, as silver wire, chromic catgut or kangaroo tendon, the latter being my preference. These are introduced through the holes by a short curved needle carrying a ligature holder, and the ligature is drawn through and tied or twisted in case silver wire is used. This firmly holds the fragments in correct position. Screws, metal ferrules or plates have been used, but the chromic catgut No. 4 or kangaroo tendon meets all requirements.

Occasionally, when a non-absorbable suture, as silver wire, is used, a necrosis about the drill holes, with a sinus remaining for a long time, delays in healing and finally separation of some bone follows. Again, when these wires are twisted, the operator is frequently chagrined to see the wires break, and all must be done again. I have experienced considerable trouble in getting a needle that would go through the bone easily and not break, and have devised the use of a silver probe with special eye. This is of small size and very flexible so that the end may be grasped by forceps under the bone and brought easily into the wound or bent in position to enter the other fragment on return. I believe all compound fractures should immediately be treated by some means of internal fixation in addition to the usual splint or plaster-of-paris dressing.

REPORT OF CASES WITH IMMEDIATE OPERATION.

T. C., superintendent of blast furnaces, was injured in an explosion Aug. 29, 1895. He received a compound, comminuted fracture of the right patella, with extensive laceration of the superficial tissues, the knee joint being freely opened. There was not enough of the patella left to recognize it. I saw him a short time after the accident and ordered him removed to St. Joseph's Hospital. The leg was thoroughly cleansed and many fragments of the patella removed. The largest part of the patella, that remained attached to the upper portion of the extensor tendon, was approximated with the largest part of it remaining attached to the lower portion of the tendon, drilled and fixed with silver wire, and the superficial tissues united with silkworm gut and the joint fixed with a plaster-

of-paris cast. On account of the joint being open, a drain of gauze was used in this case, and later a window was cut in the cast and dressings made through the window, as necessary. The wound healed as well as could be desired and he regained the full use of the knee and leg, being discharged from the hospital in seven weeks. He was later able to ride a bicycle and is as well as before the accident.

CASE 2.—T. E., a carpenter, fell from a height of about twenty feet across a girder Jan. 10, 1904, sustaining a compound comminuted fracture of the left tibia and fibula. I saw him at Silver Cross Hospital a short time after the injury. There was an extensive laceration of all the tissues about four inches long on the anterior surface of the leg in the upper third. The fracture of the tibia was an oblique one in the upper third, the upper end of the lower fragment coming through the soft tissues on the external and anterior surfaces just below the articular surface of the joint, the fracture extending about three inches below and on the inner side. Much of the cancellated tissue of the head of the tibia was crushed and the extensor tendon was detached from the tibia. All of the comminuted bone was removed, the remains of the extensor tendon was attached to the upper fragment and the two fragments opposed, drilled and united with No. 4 chromic catgut. The lacerated tissues were united with silkworm gut and drainage was employed. On account of the great amount of tissue destroyed and removed, this case was a long time in filling in, but eventually I had the satisfaction of seeing this man leave the hospital, on June 28, with good union and perfect action of the knee. For some time, he stated, the knee was weak, but he returned to his usual work as a carpenter with a good leg.

This is one of the most severe cases in my list and I believe many operators would have done an amputation at the start.

CASE 3.—F. H., a switchman, aged 18 years, was caught under an engine Feb. 18, 1905, and run over, sustaining a compound fracture of the right femur in the lower third. The quadriceps extensor muscle was severed and the muscles of the external and posterior region were lacerated, but not entirely severed. He had also a simple fracture of the right tibia and fibula in the middle third and a crushing injury of the left thigh in the lower third. The case appeared almost hopeless as far as saving the leg was concerned. Amputation of the thigh was considered, but the femoral artery had escaped serious injury and I resolved to make an effort to save the leg. The fracture of the femur was practically transverse, but I could not replace and retain the fragments in good position. Had I been successful in so doing they would have been disturbed by the frequent dressings that the case demanded. I cleansed the wound thoroughly, replaced the fractured femur, drilled the opposed ends and fixed with silver wire, united the muscles with chromic catgut, sutured the superficial tissues with silkworm gut and applied local fixation splints. Iodoform gauze was employed for drainage. Lateral splints were employed for the tibia and fibula. A Buck's extension dressing was applied and the patient put to bed. This case went on to repair in an ideal manner, the only complication being some little necrosis about the drill holes. Later the wire was removed and the necrosed bone chiseled away. This young man now walks as well as any of us with absolutely no shortening. The fractures of the tibia and fibula united with a perfect result.

CASE 4.—R. J., a switchman, was run over by a car Aug. 1, 1905, sustaining a compound fracture of the left tibia and fibula. The frac-

ture of the tibia was a diagonal one and the soft tissues were severely lacerated. Amputation seemed to be the only procedure open to us, but the patient absolutely refused to consent to such treatment. We told him that he would not be able to retain the leg without considerable danger, but he was willing to take the chance and we made an effort to save the leg. I cleansed the wound, approximated the fractured tibia and fibula, drilled and fixed the bones with chromic catgut and sutured the soft tissues. Drainage was also employed in this case and the lateral splints applied. This patient was a victim of epilepsy, following a previous injury to the skull. Soon after the effects of the anesthetic had worn away he began to have convulsions. There was no limit to the number of them and no stated time of occurrence. These convulsions were followed by a delirium which lasted for three weeks, during which he got out of bed, removed his splints and walked to the toilet room, tearing out my chromic catgut fixation sutures. There was no infection in the wound to cause the delirium and we were at our wit's end to explain it. Nourishment was refused and nutrient enema was expelled, so that it appeared that the patient would die from exhaustion. Large doses of iodid stopped the trouble, and on October 5 I again drilled the bones and put in silver wire, which held the bones in position. Convulsions followed the second anesthetic, but did not last so long as the first time. He made a good recovery, the union becoming firm and the leg full length. Wire was used in this case, and I again had a necrosis of some of the bone and had to remove it.

CASE 5.—B. H., a pipe fitter, fell from the roof of the blast furnace Nov. 10, 1905, and sustained a compound fracture of the left tibia and fibula in the lower third. The laceration of the soft tissues was about four inches long on the inner side. I saw him a short time after the injury. He was removed to the Silver Cross Hospital, where the radical method was at once practiced. The wound was thoroughly cleansed, the fragments approximated, drilled and united with kangaroo tendon and silkworm gut used to close the wound. Drainage was used in this case for a few days, as there was considerable hemorrhage. The wound healed primarily and a cast was applied. He was sent home in three weeks, wearing the cast. This was a very severe injury, but he received only four or five treatments before the cast was applied and none after. He returned to his work with no shortening and perfect union.

Let us now consider those cases which were operated secondarily.

CASE 6.—G. W., a laborer, was injured by a fall from the loading dock Nov. 25, 1905, and sustained a simple fracture of the left olecranon. The arm was dressed with an anterior splint, fixing the elbow, and at the end of four weeks removed with good union and passive motion advised. The next day after the splint was removed he started out for a walk and slipped on the ice and fell, striking the same elbow and refracturing the olecranon. I again applied the splints, but could get no union. After four or five weeks I advised him to submit to an operation, but on account of his age, which was 68 years, and danger of an anesthetic, as he has a bad heart, he was loath to undertake it and was still hopeful that union would take place. On Feb. 25, 1905, he entered the Silver Cross Hospital, and on the 27th I operated on the elbow under local anesthesia, drilled the separated fragments and united them with silver wire and applied a light plaster-of-paris dressing. He left the hospital March 7, still wearing the cast, which was later removed, leaving a good bony union and a perfect joint. The wire remained in this

case and gave us no trouble. He returned to work in about two months after the operation.

CASE 7.—J. T., a teamster, was injured Sept. 19, 1904, by one of his horses jumping on him in the stall. He sustained an oblique compound fracture of the left tibia and fibula in the middle third. He was taken home and I saw him in a short time after the accident. There was an opening in the skin about an inch long, caused by the upper end of the lower fragment. The wound was cleansed and lateral splints applied. I saw him regularly for four weeks and he secured a good union of the fibula, but not of the tibia. I then rubbed the ends of the fractured tibia together, hoping to stir up enough reaction to secure some union, and applied the lateral splints, but was disappointed a second time. I then urged an operation, believing that to be the only means of securing union. After some delay he consented and was removed to the Silver Cross Hospital November 16 and operated November 18. I told this patient I thought there was some muscular tissue between the ends of the bone, and the operation proved this was so. This tissue was removed, the tibia drilled and chromic catgut used to bring the fractured ends together, with the result of a good union and primary healing of the superficial tissues. He remained in the hospital six weeks and was discharged, wearing a light cast. He is doing his regular work with a good leg and no shortening. His recovery was prolonged by a slight skin complication after the wound healed.

CASE 8.—C. H., a foreman in the mill yard, fell into a manhole May 2, 1905, and sustained a simple fracture of the right tibia and fibula in the lower third. He was removed to the Silver Cross Hospital and lateral splints applied. At the end of four weeks no union had taken place and the ends of the bones were rubbed together and the splints reapplied, but no union followed. This case was operated on July 11 and muscular tissue with fascia found between the ends. This tissue was removed and the bone drilled and united with chromic catgut. The superficial tissues were united with silkworm gut and a light cast applied. On account of a slight skin infection, I cut a window in the cast and inserted drainage for a short time. This case made a complete recovery with no shortening, although an oblique fracture. He was discharged from the hospital September 2 and is doing his regular work.

CASE 9.—A. B., a bridge carpenter, 22 years old, was thrown from a bridge by a heavy timber July 3, 1905, and sustained a compound fracture of the right fibula and tibia in the lower third. On account of a small wound made in the skin, I resolved to try the expectant plan and applied the usual fixation splints. The wound healed nicely, but at the end of seven weeks he had only partial union, although the ends of the fragments had been rubbed together after four weeks. August 17 I operated on this case and found the interposition of some muscular tissue prevented any better union. As in the previous cases, this tissue was removed, the bone drilled and united with kangaroo tendon and a light cast applied. There was an ideal healing in this case. He left the hospital October 13 with good union, full length, and is following his regular occupation.

I have given above the history of nine cases and wish you to note the result of Case 5 as an example, in which the immediate operation was done in a compound fracture, with a disability of three months in comparison with Cases 7, 8 and 9, similar injuries in which the secondary operation was done with a disability of about six months.

NATURAL, TEMPORARY OR ACQUIRED AND ARTIFICIAL IMMUNITY.

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It is a well-established fact and known for centuries that some persons, certain races or whole classes of animals are resistent or immune to certain infectious diseases. We call this quality immunity. It may be a natural or an acquired immunity. The latter is acquired either by overcoming an infectious disease or by artificial immunization. The natural immunity, in general, is to be found only in whole species of animals or in certain races. To call the immunity of a single individual or animal outside of his species, against a certain infectious disease, natural immunity is not correct. The immunity of men from the cattle plague or of animals from syphilis are examples of natural immunity. This immunity is not always an absolute one, as certain noxiousness, like starvation, exhaustion or cold, might reduce the natural resistance, or a large quantity of a highly virulent material may produce infection in an animal, which generally would be immune against that particular disease. Chickens are immune from anthrax if their temperature is kept low by long cold baths. We also find the same condition in rats, pigeons and frogs. The protective apparatus in our bodies must be divided into an external and internal one. In the external one, we count the normal integument, the hydrochloric acid in the stomach, the mucous membranes and the action of the ciliary fibers. Besides these, there are internal preventatives, which have the power either to destroy the invading bacteria or their toxins. We have to distinguish between immunity against bacteria and immunity against their toxins. Both are entirely different. To understand this, we have to look at the entirely different ways in which bacteria do their deadly work in the body. For instance, in a case of anthrax, we find an abundant amount of anthrax bacilli inundating the blood. On the other hand, in a case of tetanus, we find bacilli only at the infected place, while in the blood are circulating the toxins produced by the tetanus bacilli. These two examples represent the two different methods of diseases produced by bacteria, the former the infectious diseases, the latter the disease produced by the toxins of the bacteria. It is a positive fact that in the infectious diseases, at least in the last stages of the illness, it is not the bacteria, but their toxins that produce death. Nevertheless, the two divisions have to be made and, according to this division, the immunity may be against the toxins or against the bacteria. Under the first we have to include the immunity against ricin, arbin and certain animalic poisons.

We will now consider the natural immunity against bacteria. Metschnikoff's theory of the phagocytosis is well known, and I will not go into detail. It has been proven by many experiments and observations that leucocytes play an important rôle in immunity. On the other hand, Buchner was able to show that the blood-plasma and blood-serum have strong bactericidal power. He called these bactericidal principles "alexins." He believes that the natural immunity depends on the amount of

alexins in the serum. The alexins have no specific action against certain bacteria and differ to this extent from the antibodies, the preventatives of acquired immunity, which show specific action. Were Buchner's theory a fact, we would have to demonstrate that the serum of animals or men, immune against a certain infectious disease, would show the strongest bactericidal action toward their toxins. But this is not the case. For instance, while the serum of rats kills anthrax bacilli, against which rats are immune, the serum of rabbits, which are very susceptible to anthrax, kills anthrax bacilli still more quickly. There could be many examples mentioned where animals are immune to certain infectious diseases, but their serum has hardly any bactericidal power against the specific microbes. This shows that the alexin alone can not explain natural immunity. At present we do not know how much of Metschnikoff's or Buchner's observations or a combination of both, as suggested by Buchner, can be taken as a satisfactory explanation. An interesting fact worth mentioning is the high bactericidal power of the serum of nursing children. It would assist us in explaining the comparatively high resistance of nursing children against infectious diseases.

The natural immunity or resistance against diseases which is produced by the toxins of bacteria can be produced by substances that work against the toxins, antitoxins or, as Ehrlich explains it, through the entire absence of points where the toxins could attack. Behring explains this by a supposed congenital insensibility of the cells against the toxins. The simplest explanation of natural immunity would be the supposition of antitoxins, but, in reality, there are no such antitoxins to be found. We can not find a trace of antitoxin of tetanus in the blood of chickens or turtles, although these animals are immune to this disease, nor can we find a trace of diphtheria antitoxin in the blood of rats, although they are immune to diphtheria.

Acquired immunity must be attained by overcoming an infectious disease, intrauterine life being included, or by artificial immunization. The immunity of one person or of one animal outside of its species against certain diseases is, in rare instances, a natural but almost always an acquired one. Speaking of the nature and cause of acquired immunity, we must again make a strict division between acquired immunity against toxins and immunity against bacteria. Kitasato and Behring found in the serum of animals (horses), in which they had injected a certain amount of diphtheria or tetanus virus, products which, if injected into other animals, would be able to protect them against newly injected virus. They called these products antitoxins. With a certain method of immunization, that of injecting increasing doses of antitoxins, they were able to make these animals immune against very high and under other conditions deadly doses of toxins. They found that the antitoxic substances are free in the blood serum of immunized animals and by the injecting of this serum into other animals they were able to make them immune against very high doses of toxins. But not only in the body of animals does the antitoxin show this quality, for in the test-tubes also it can be seen that toxin and antitoxin become engaged like a poison

and an antidote, they neutralize each other and have no influence against diphtheria or tetanus bacilli. Ehrlich showed that the union of toxin and antitoxin occurs like a chemical union, in a perfectly fixed proportion and following the law of the multiples. An important quality of the antitoxins is their specific action, the antitoxin of diphtheria acting only against the toxins of diphtheria, etc. I said that the immunity of an individual person or animal against a certain infectious disease can not be called natural immunity. In the serum of whole species of animals with natural immunity against a certain disease, antitoxins or bacteriolysins, the correspondent of antitoxins in cases of immunity against bacteria, have never been found. However, one of these antibodies will most often be found in the serum of an individual person or animal immune against a certain disease, outside of his species. If we find antitoxins or bacteriolysins against a certain infectious disease, then this person either withstood the disease once in life, the intrauterine life included, the disease took such a slight form that it was not discovered, or we must hunt for another reason, which will be easily found. In the nose and its cavities, in the mouth, throat and intestinal canal, we find different and sometimes virulent and pathogenic bacteria. In some way or another, some of these bacteria may enter the body in an insufficient amount to produce the typical disease, but still enough to produce antitoxins. If this process repeats itself often enough, antitoxins, sufficient to resist a much severer infection, will be produced, and in this manner Nature does what Behring did, in order to produce highly powerful diphtheria antitoxin, and the temporary immunity of an individual or animal is thus produced. With this I can explain the observations made by Wasserman, who found in the serum of perfectly normal individuals or animals antitoxins against diphtheria or tetanus, in the serum of individuals who, as pretended, never went through any of these diseases. The presence of these antitoxins can only be explained in this way: That the individual may have overcome a slight attack of one of these diseases or the antitoxins had been formed in the manner I have explained by a gradual immunization of the body. There is still another difference between natural and acquired immunity; the first one lasts for the entire life, while the acquired may last for the whole life, but, in most cases, lasts only a short time. The overcoming of scarlet fever or typhoid fever usually makes the person immune against these diseases for their entire life, while the overcoming of diphtheria produces only a very short immunity. Again, the overcoming of some infectious diseases produces no immunity at all. We might, therefore, reserve the name natural immunity for the immunity of a whole species, and the name acquired, temporary or transitory immunity for the immunity of a single person. During a severe epidemic of scarlet fever in Witkowitz, in 1900, I observed the following, and I am convinced that other physicians have made similar observations: In a family of four children, three contracted scarlet fever and died, while the fourth child, who came in closest contact with the others, isolation being impossible, remained well. The next year, during another epidemic, this child, 7 years old, took scarlet fever and died. How can

this be explained? The opportunity to infection in the first epidemic was more likely than in the second, the genus epidemicus in the first epidemic was more severe, but still the child was spared once to die during a much slighter epidemic. This temporary immunity is explained in the same way as the acquired immunity, by the formation of antitoxins through the presence of the specific bacteria in the body. I have observed that among 1,000 children of general practitioners there are 12 per cent. less infectious diseases than in any other 1,000 children. Everybody knows that children of physicians are much more exposed to infectious diseases than other children, and we should, therefore, expect a much higher percentage of infections among them. But a doctor's child, from its earliest infancy, becomes inoculated with small quantities of infectious material, not strong enough to produce the disease, but yet enough to produce antitoxins and producing acquired immunization. When we read that Landerer, by the injection of cinnamic acid, derives good results in treating tuberculosis and when we read that the injection of anthrax bacilli, in an extremity which was made very hyperemic by constriction, does not produce a general infection, we see that these proceedings are, in reality, means by which the normal preventives of the organism become increased and so produce immunization, in a general sense. The explanation of the above-mentioned proceedings is found in the increased blood supply and thus the increased supply of the bactericidal substances of the normal blood. Besides this general immunization, we have a specific immunization. This specific immunization can be a direct or indirect one, or, as Ehrlich calls it, an active and passive one. We must again not forget to distinguish between immunity against toxins and immunity against bacteria. The ideal would be if we would have an immunizing substance which would combine both. This would be especially necessary when using the serum against typhoid fever or cholera. The latter immunizing serums dissolve the bacteria and clear the organism from them, but this process is very fatal to the organism, since many toxins inclosed in the bacteria thus become free and kill the organism, as the immune serum contains no power against the toxins. Behring was able to make horses immune to the highest doses of diphtheria toxin by injecting gradually increasing doses of diphtheria virus. This process of immunization is called active immunization. Behring found that the blood serum of the so immunized horses has a strong antitoxic power against diphtheria toxin and is able to make a second or third animal immune. The immunity obtained in this way is established immediately after the injection and is called passive immunization. In short, in passive immunization we bring the antitoxins which were built in another animal by active immunization after a long and dangerous process into the body and get an immediate result, free from all danger. Active immunization is dangerous and almost entirely abandoned for therapeutic purposes. It is, however, interesting to know that this was the earliest method of immunization. Several centuries ago variolation, which was nothing more than active immunization, was practiced. The earlier the antitoxin is injected the surer and better result is obtained.

If too large quantities of the toxin circulate in the blood, if too many cells are already attacked, if the haptophore part of the toxin is moored in great quantities, then the antitoxin can not act. Therefore, it is necessary to inject the antitoxin as soon as possible and in large doses. Doenitz's experiments are very instructive. He injected into rabbits seven times as large a dose as the deadly dose of diphtheria toxin, and, after ten minutes, he could still save these rabbits by injecting great quantities of antitoxin. The deadly amount of the toxophore part was not in action yet. After a period of 15 minutes he could still save these animals, but, if he waited a longer time, nothing could save them. If in doubt whether a case is diphtheria or not, I advocate the immediate injection of 2,000 units of antitoxin, without waiting for the result of the cultural examination. If the examination shows bacteria I advise, if necessary, another injection of 2,000 or 3,000 units, repeating this dose once or twice or oftener in severe cases. There is not one case known where the injection of the proper serum in the proper way did any damage except exanthema. On the contrary, we know that even in desperate cases high doses of antitoxin may help. There is not enough done for the immunization against diphtheria. If a case of diphtheria occurs in a family, nothing better can be done than to inject all the other children exposed with small doses of antitoxin, a precaution which is better than all isolation. Doenitz showed, by his experiments, why the antitoxin in cases of tetanus has never given as good a result as in diphtheria. Four minutes after injecting a mouse with tetanus poison the amount of antitoxin necessary to neutralize the toxin was not greater than the proportionate amount of toxin. Sixteen minutes later twelve times the amount of antitoxin was necessary to save the animal. The fixation of the toxin of the tetanus bacilli results very quickly, while its separation and neutralization afterward requires large quantities of a powerful antitoxin. We see from this that we must inject as soon as possible; if there is the suspicion that a wound may be infected with tetanus bacilli, a preventative injection of small quantities of serum will almost always give a positive result, while if the injection of serum is given after the symptoms of tetanus have developed, the result is very uncertain. This proceeding should become a rule, especially as no damage can be done. No better proof for this can be given than the experience of the obstetrical clinics in Prague. In the year 1897, while I served my term as surgeon at the German Obstetrical Clinic, an epidemic of tetanus broke out in the clinic under Professor Pawlik. In spite of the strictest separation, the epidemic spread to the German clinic. In order to stop the epidemic, the entire clinical building was remodeled, the floors were newly cemented, the furniture exchanged, the instruments renickled; in short, after six weeks it was practically a new clinic; nevertheless, tetanus started again and did not stop until a small dose of tetanus serum was injected into each woman in labor. After this had been done no more tetanus was observed.

Of great interest are the experiments of immunization against the venom of serpents. The serum against plague, the serum against botulis-

mus, tuberculosis—Tiszoin-Marziliano—the serum against typhoid fever, cholera, etc., all these must be mentioned. The latter sera belong with the antistreptococcus serum among the bactericidal sera, with only or chiefly bactericidal power, while they are not or only to a slight degree antitoxic. The bactericidal sera contain only the immunizing bodies, or the amboceptor, while the complement must be furnished from the body into which it is infected. Only when both act together can the bacteria be destroyed. Whether the body will furnish the complement or not is a fact of which we are always in the dark, and, therefore, it was advisable to inject it simultaneously with the bacteriolytic serum, because the complements are very inconstant. But this complicates the process so much that it can not be used in practice very well. Other things are to be considered. The bacteria which produce the maladies which we call diseases by intoxication produce a uniform toxin, and, therefore, if the bacteria are of the same species as tetanus, diphtheria, etc., the antitoxin is a uniform one and acts against all kinds of toxins of the same species. We find, on the other hand, in bacteria which produce the so-called infectious diseases great biologic differences, even in the same species, differences which can be found in the serum also. Many authors who do not believe that the different streptococci belong to one uniform family say that antistreptococcic serum is of no value, because the serum reacts only to the homologous streptococcus, which was used for producing the serum. This question is not solved at present, but, in my opinion, we will obtain results with the different streptococci sera as soon as we will be able to produce a concentrated serum. Until now the efforts to produce a high powerful serum are not far advanced, as can be seen from the fact that it is necessary for Moser to inject 200 to 300 cubic cm. of his antiscarlatina serum. In order to overcome these above-mentioned objections, the different authors use different methods. Moser mixes 7 to 14 streptococcic cultures obtained from different patients. With this mixture he immunizes and he believes that this serum will contain enough partial immunizing bodies for the different kinds of streptococci which could have produced the disease. We could imitate this by injecting different streptococci sera which are on the market into one patient, in accordance with Moser's idea. It is clear that the chances of a good result from the use of bactericidal sera depend to a great extent on the condition of the patient, as we know that he must furnish the complement. We, therefore, must use the serum as soon as possible in order to get the assistance from the body, and we must also use larger quantities than have been used heretofore. The concentration of these sera is low, and we must make this up by larger quantities of serum. The serum therapy of the bactericidal sera is certainly still in its beginning, but we hope to obtain from them the same good results gotten from the antitoxic sera.

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APRIL, 1906.

THE FIFTY-SIXTH ANNUAL MEETING.

The next annual meeting of the Illinois State Medical Society will be held at Springfield on the 15th, 16th and 17th days of May. The prospects for a successful meeting are unusually good. The meetings in Springfield, because of its central location and ease of access, have always been especially well attended, and this year the meeting promises to be better than ever as regards the attendance and interest in the program. Since the last meeting held in Springfield in 1900 the membership of the state society has increased about 400 per cent. and the society has made notable improvements in many lines. The city of Springfield has, during this time, made a remarkable growth and is now a handsome place of 50,000 inhabitants, the third city of the State. The place of meeting will be the First Methodist Church, which is commodious and well adapted for the purposes of the sections, general meetings and exhibits. The thirty spaces allotted to exhibitors have already been taken. This alone is evidence of the interest which is being shown in business circles concerning the meeting. At several recent meeting places it has been a difficult matter to secure the attendance of exhibitors, but at Springfield there have always been more firms wishing to exhibit than could secure space. The entertainment features will be well taken care of.

Tuesday evening the general meeting will be addressed by the president and by Gov. Charles S. Deneen, after which there will probably be a public reception. Wednesday evening the society will be taken on street cars to Washington Park, where a picnic luncheon will be served and a band concert given, followed by a vaudeville entertainment in the casino. This feature, which takes the place of the annual banquet, offers a better opportunity for the members to move about at will and become acquainted with each other amid pleasant surroundings.

The ladies will be specially entertained at an afternoon tea to be given at the lodge near the Lincoln monument on Wednesday afternoon. They will then be driven to the park to take part in the evening entertainment. All physicians are cordially invited to bring their wives with them. All will be taken care of comfortably as regards lodging and meals. The committee on halls and hotels is Drs. L. C. Taylor, H. H. Tuttle, D. M. Otis, Charles Graser, T. L. Perkins and A. L. Taylor, any one of whom may be addressed should any of our members desire particular accommodations. The sessions of the House of Delegates will be held at such times as will not conflict with the scientific sessions of the sections, and undoubtedly many important items of business will be disposed of. It is, therefore, necessary for each county society to have a delegate and an alternate present to represent it at the meeting of the House of Delegates at each session.

The railroad rate, as usual, will be one and one-third, on the certificate plan. Let each member be sure to secure a certificate in purchasing a ticket and turn it over to the representative of the railway company as soon as possible after reaching Springfield. The program appears in this issue of THE JOURNAL. All members of the medical profession, and especially all members of the state society, are invited to attend and take part in the meeting.

MEDICAL DEFENSE.

Two years ago the Illinois Medical Society appointed a committee to consider the advisability of medical defense in Illinois. This committee, after full consideration of the question, advises the society to undertake this work and recommends the necessary changes in the constitution and by-laws. Many county societies have already instructed their delegates as to how they shall vote on this proposition. Nevertheless, so much is involved that it behooves the membership, individually and collectively, to weigh carefully the arguments pro and con. To begin with, in those counties where there is no medical-defense organization at the present time an increase of $1.00 in the annual dues is necessitated. This will cause some members to complain and others to quit. Will it net us a gain or loss in membership? We are convinced that members do not

object to paying dues or to having dues increased if they can readily see a return for the money expended. It is the experience of those associated with the work of societies which have medical defense that nothing else brings in so many members or causes dues to be so promptly paid.

So far as we have been able to see, no other argument against medical defense is urged. The arguments for it are many. The defense which is given is composed in part of things which can be bought and in part of professional backing and unity. One dollar is not a large sum, but there are several contributing factors which increase its efficiency. For example, it is customary to reckon cost of collection and administrative expense against all funds. In our case these items are entirely eliminated. The dollar is net. The experience of Chicago Medical Society is that a reserve fund has been built up out of these single dollars and the defense given has not suffered in efficiency.

The efficiency is greatly augmented by the support of the profession. Service is gratuitously rendered which could not be purchased with any reasonable amount of money. This is true both of the actual trial of the case and of the preliminary conferences, through which most of the attending plaintiffs and their attorneys are convinced of the injustice of their positions. Largely by reason of these equations a better defense can be given for the small sum than is possible for companies collecting a larger fee. It may not be amiss to say that the influence of this stand together is excellent for the party sued, for the assisting physicians, for organization, for the medical public and, just as emphatically, for the general public.

Medical defense, in the main, is for the middle class of physicians. Suits are entered in hope of gain. However much the plaintiff may feel, the thinking is done by contingent-fee lawyers. These gentlemen know that the poor and irresponsible physician is not a fit subject. They also know that it does not pay to sue the man of wealth and influence. The usual suit is against the rising young man or the man of moderate means.

In addition to the individual work of defense, there are other avenues in which there is need for expenditure of effort. There are two kinds of law; the law of the statute book and the law of decisions. Whenever a decision is given against a homeopath or eclectic or regular there will probably be embodied therein one or more utterances of the bench which will be made use of in subsequent cases. There are very vital questions in such decisions, as that in the Pratt case and that in the Williams case. If physicians followed the rules laid down there many lives would be lost and the sum total of health and ease would be greatly lessened. On the other hand, there is scarcely a physician in the state but who, if held to financial accountability for all the cases in which he had violated the

rule in these cases, would be adjudged a bankrupt. The interests of the people demand a change in some of these rules made by decisions.

The committee will recommend a plan which it thinks best. It does not insist upon this plan. It will insist upon the principle that the best defense is an aggressive offense.

DR. M'CORMACK'S TOUR.

As announced in the March number of THE JOURNAL, Dr. J. N. McCormack, of Bowling Green, Kentucky, Secretary of the Kentucky State Board of Health and Chairman of the Committee on Organization of the American Medical Association, is devoting the month of April to organization work in Illinois. The itinerary laid out for Dr. McCormack provides for addresses in thirty-one towns in the state. As these meetings have been carefully arranged, it is probable that during the current month every physician in Illinois, who cares to, can meet Dr. McCormack and hear him discuss matters of vital interest to both the individual physician and the profession as a whole.

As a class, physicians are accused, often, it must be admitted, with reason, of being self-centered, self-sufficient, intolerant of criticism and lacking in interest in matters outside of their own immediate work. As a class, we are, perhaps, too little concerned with principles and conditions that affect the profession as a whole, and too much inclined to consider and be influenced by conditions which affect us as individuals. Dr. McCormack, in his work for the American Medical Association, has traveled all over the country, studying local conditions, discussing organization matters with physicians, and learning the actual conditions under which the average doctor lives and works. In fact, he may be said to have created the new specialty of clinical medical sociology. For, reasoning from abstract theories and assumptions, he has substituted deductions from facts gathered from a very wide range of observation.

That there are many matters in the realm of practical medicine today that need adjustment is admitted by all. Scientific medicine has won brilliant victories in the last twenty-five years. It will win still greater in the next quarter of a century. To the army of trained scientific workers this phase of professional progress may safely be intrusted. But practical questions involving professional economics affect every physician in the land. No man can do the best work of which he is capable so long as he is struggling with practical and financial difficulties. In proportion to the expense of preparation as well as the enormous amount of non-remunerative philanthropic work done by the medical profession, the financial returns to the average physician are far below what they should be. If the doctor were better paid, he could live better, have more leisure for study and research, and so be a better physician and a better citizen, of more value to himself, his family, his individual patients, and

the state as well. This does not mean, necessarily, a raising of fees, in the individual case. It means a regulation and readjustment of economic professional conditions.

As scientific men, we must obtain facts before we construct theories. To avoid hasty generalization, our facts must be drawn from all grades of the profession, in all parts of the country. Before our local societies can legislate intelligently and effectively on lodge practice, contract practice, fee tables, insurance and corporation work, and all other questions involved in practical medical ethics, they must know whether the conditions that confront their members are local or general, what the causes of these conditions are, and how other societies have handled them. Only a man of professional training, broad sympathies, keen observation, judicial temperament and frank fearlessness, can supply the needed personal knowledge of local conditions throughout the country. If nothing else was accomplished thereby, the medical profession could well afford to send a man like Dr. McCormack over the country, in order to learn exactly the conditions that prevail in professional circles.

Having obtained this knowledge, he is now in a position to advise regarding existing local evils. Every member of every county society can learn what difficulties and problems have been encountered by his professional brethren elsewhere and how they were solved. The public can learn of the relation which should exist between physician and patient. The bench, the bar, the clergy, the school board and its teachers, can learn how they can best aid in raising the standard of health and happiness in their town or county. It is the unanimous opinion of the organized profession that, following Dr. McCormack's meetings, a better feeling prevailed both among doctors and on the part of the laity toward doctors, that his talks have everywhere resulted in increased enthusiasm, stimulation of effort, and clearer ideas and plans of work.

It is earnestly hoped that every physician, and especially every member of every county society in Illinois, may attend these meetings, hear Dr. McCormack's talk and take part in the discussions that follow. Go yourself, take your wife, and invite your patients to go also. You will be a better physician and they will be better patients thereafter.

RESOLUTIONS REGARDING MEMBERSHIP.

At a meeting of the council, held at Decatur, April 5, 1906, the following motion was made and unanimously carried:

"That the secretary be instructed to drop all names of members from the mailing list who are not paid for at the proper time, as defined by the by-laws, and not to add any new names that are not accompanied by the per capita tax.

"That when members are accepted in the first six months of the year

they must pay in full for the year, and in the second six months one-half the amount."

"Resolved, That it is the sense of the council that under our constitution and by-laws no one can be accepted as a local member of his county society who does not at the same time become a member of the state society."

E. W. WEIS, *Secretary.*

REPORTS FROM DR. M'CORMACK'S MEETINGS.

As THE JOURNAL goes to press, the first ten days of the tour arranged for Dr. McCormack through Illinois has been completed. Reports sent in from the four Councilor Districts so far visited show that the meetings have been, as a rule, well attended and productive of much interest. In order that members of the state society in the other five districts may know the character and nature of these meetings, the following reports from the southern part of the state are printed herewith:

DR. M'CORMACK AT DECATUR.

In the afternoon on April 5 Dr. McCormack met the citizens of Decatur and vicinity for a "heart to heart" talk in the rooms of the Decatur Club. Forty physicians were present. All were delighted with his advice and suggestions for better organization, for more harmony and for golden-rule conduct of individuals, and for the formation of clinical societies to meet weekly, etc. In the evening, at 8 o'clock, he addressed an open meeting at the First Presbyterian Church, where an audience of three hundred citizens and physicians had gathered. It was a splendid lecture, and, in the language of a lady present, "you could have heard a pin drop." We are convinced that Dr. McCormack's best results can only be produced by a second lecture in each place. Before his lecture, no matter how well advertised, the public murmur, "Doctors' trust," and the press smile and say, "Patent-medicine crusade." After his talk, his hearers are convinced of his altruism, and a second appearance would give a greatly increased audience. The Association needs several more Dr. McCormacks for this work. It opens up a new career for a number of qualified men, and Dr. McCormack should be their teacher.

EVERETT J. BROWN,
President Decatur Medical Society.

THE MEETING IN RICHLAND COUNTY.

Friday, April 6, the date of Dr. McCormack's visit to Olney and Richland County, is a day long to be remembered not only by the medical fraternity of this and adjoining counties, but by the members of other professions and by the laity in general, as well. Dr. McCormack's afternoon "heart to heart" talk was most entertaining and instructive and was heartily appreciated by the physicians present. His evening discourse on "Things about Doctors which Doctors and Other People Ought

to Know" was given before a large and most appreciative audience made up of men and women from all shades and walks of life. That his lecture was well received was evinced by the frequent outbursts of applause which greeted his many truthful remarks and by the public endorsement afterward given him in short speeches made by many of those present. His logic was clear and forceful, his reasoning plain, and his ability to convince conclusive. The profession has been doubly benefited by this visit, for in the afternoon, at the close of his remarks, the Rutland County Medical Society—a society not dead, but sleeping—was reorganized, and a committee appointed to form some plans for the carrying out of a systematic and instructive postgraduate course. The officers chosen for the ensuing year are: Dr. H. T. Watkins, president; Dr. George Weber, vice-president; Dr. E. H. Horner, secretary, and Dr. A. T. Telford, treasurer; censors, Drs. W. A. Thompson, M. D. Foster, and W. E. Fritchle.

NINTH DISTRICT.

It may be of some interest to the profession in other parts of our state to know that the McCormack meetings were a success in the Ninth District. The attendance was not large, of the twenty-three counties in this district about half were represented in the two meetings. Those who did attend carried away with them fresh enthusiasm for their professional work, new ideas as to how the local society may be made helpful and successful, and a determination to be strictly ethical at all times. The laity, as well as the doctors, greatly appreciated the evening addresses.

J. T. McANALLY,
Councilor Ninth District.

DR. M'CORMACK'S LECTURE.

The people of Centralia have often paid fancy prices for tickets to hear noted lecturers and have not been either so well entertained or so profitably instructed as those who were fortunate enough to listen to the address of Dr. McCormack, organizer for the American Medical Association, delivered before a public meeting held at the Elks' hall under the auspices of the Marion County Medical Society.

The ordinary individual approaches a lecture from a medical man with fear and trembling. The surgeon's knife and the physician's lecture have equal terrors to the laymen. Notwithstanding this, the Elks' lodge room was comfortably filled and Dr. McCormack had a very good audience. When he began to talk he entirely dispelled any idea that his lecture was to be technical or academical. He went into the subject with the same vigor and freedom with which the woodsman wields his ax. The doctor stated plain truths in a blunt way, and spared no one, but at the same time his points were made in such a manner as to gain the sympathy of his hearers. Flashes of original and striking humor illumined the course he cut and slashed through the wilderness of ignorance.

He opened his lecture by laying the blame for most of the ills that affect the medical profession to the disposition of doctors to fight one another, and demonstrated that the only effective means of ridding the profession of this evil is by organization. The benefits to be derived by the general public from the strengthening of the influence of the medical profession were shown.

He declared that the state legislatures should enact laws for the prevention of diseases, and that if the influence of the physicians was what it ought to be these laws of health and sanitation might be passed. Consumption and typhoid fever are preventable diseases, produced by germs carried by mosquitoes, flies, or in the drinking water. This may be prevented by proper sanitary regulations. The startling assertion was made that in the Spanish-American war fourteen lives were lost through preventable diseases to one lost in battle, and the blame for this was laid directly at the door of the war department on account of its refusal to give the surgeon-general proper authority. The epidemic of yellow fever in New Orleans was said to be due to the refusal of the local authorities of that city to accept the report of the head of the local health board that yellow-fever germs are carried by mosquitoes, and adopt the recommendations made to prevent the distribution of the germs.

The State of Illinois was held up to derision as the haven of the quack doctor who was described as the man who robs the sick and afflicted. At this point Dr. McCormack turned his attention to the preachers and declared that the most dangerous quack doctors have in most instances been quack preachers. The ministers, church papers and religious societies were next put on the gridiron for helping to foist on an unsuspecting public patent medicines which are composed chiefly of poor whisky.

The lack of business methods in the profession was vigorously scored, and the speaker charged the doctor with being false to his trust who would not insist on being paid for his services enough to enable him to keep up with the remarkable advance of his profession. He declared that the diploma of a medical college issued many years ago doesn't make a man a doctor, but he must continue to study and to acquaint himself with the latest developments of the profession in order to render proper service to the families he treats. To do this the physician must charge good fees and collect them.

The address was fully worthy of reproduction in its entirety, as it treated wholly of matters of interest to the general public. Every one who heard Dr. McCormack was keenly interested in his vivid description of wrong conditions which exist, and his suggestions of remedies. If he should return to Centralia to repeat his address the "Standing Room Only" sign would have to go out early even if the opera house was secured for the lecture.—*Centralia Democrat*, April 5, 1906.

OFFICIAL PROGRAM

OF THE

FIFTY-SIXTH ANNUAL SESSION OF THE ILLINOIS STATE MEDICAL SOCIETY, TO BE HELD AT SPRINGFIELD,

MAY 15, 16 and 17, 1906.

SECTION ONE—MEDICINE.

PRACTICE OF MEDICINE, MEDICAL SPECIALTIES, MATERIA MEDICA, THERAPEUTICS, ETIOLOGY, PATHOLOGY, HYGIENE, STATE MEDICINE AND MEDICAL JURISPRUDENCE.

SECTION OFFICERS.

J. H. Stowell.....Chicago.....Chairman.
H. H. Whitten.....Peoria.....Secretary.

No paper shall occupy more than twenty minutes in its delivery, and no member shall speak in the discussion of a paper more than five minutes.—(By-Laws).

PROGRAM.

TUESDAY, MAY 15TH.

1. Duties and Obligations Relating to Tuberculosis. C. W. Lillie, M.D., East St. Louis.

The paper deals with what may be termed the ethical aspects of the subject. It deals with the duties of parents and guardians; of teachers in our common schools; of employers of labor of all kinds; of city and county officials, and boards of health and overseers of the poor; of legislators, governors and others whose duty it is to promote the passage of laws for the preservation of the public health; of charitable persons in each community; of philanthropic and wealthy citizens; of managers of steam and street railways; of hotel proprietors; of the individual in his personal habits; of all doctors, and especially members of state, county, and city medical societies; and more particularly the doctor's duty is to make sure of his diagnosis. Lastly, the duty of the doctor to instruct all others in regard to tuberculosis.

Discussion opened by J. W. Pettit, M.D., Ottawa; Clarence L. Wheaton, M.D., Chicago.

2. Etiology and Diagnosis of Spinal Tuberculosis in Infancy and Childhood. J. H. Hess, M.D., Chicago.

3. The Treatment of Congenital Syphilis in the Infant. I. A. Abt, M.D., Chicago.

(*a*) Introduction.
(*b*) The indications for treatment.
(*c*) Remedies employed. Choice of drugs.
(*d*) Plans of treatment.
  1. Continuous method.
  2. Expectant method symptomatic.
  3. Interrupted method (modified expectant.)
(*e*) 1. Based upon conception of morbid process constitutionally.
  2. Based upon special manifestations.
(*f*) Preventive treatment.
  1. General principles of prophylaxis.
  2. Governmental prophylaxis (national, state and municipal).
  3. Individual prophylaxis.
(*g*) Diet in Treatment.

4. Hysteria in Children. D'Orsay Hecht, M.D., Chicago.

1. Subject merits attention of general practitioner and specialist in pediatrics and neurology. Inquiry into hysteria in children has not been a searching one; general belief that hysteria is a malady of adult life. 2. Physical and mental factors condu-

cive to the development of hysteria in children. 3. Consideration of symptoms. 4. Illustrative cases. 5. Diagnosis, with especial reference to (*a*) exclusion of organic disease; (*b*) recognition of organic disease complicated by hysteria; (*c*) detection of simulation. 6. Prognosis and treatment in brief.

5. Intestinal Disorders of Children Accompanied with Diarrhea. J. C. Cook, M.D., Chicago.

The etiology, bacterial findings, pathological lesion; treatment, dietetic and medical.

6a. Principles of Infant Feeding. Frank X. Walls, M.D., Chicago.

6b. Some Practical Points on Infant Feeding. A. C. Cotton, M.D., Chicago.

7. Manifestations of Rheumatic Infection in Children. C. Martin Wood, M.D., Decatur.

Difference between adults and children in their reaction to rheumatic infection. More extensive and lasting damage in the latter. Tonsillitis, endocarditis, arthritis, chorea and erythemas as rheumatic manifestations. Their differential diagnosis. Importance of recognizing mild and obscure cases. Marked tendency of some children to frequent outbreaks in one form or another. Due to lessened resistance, hereditary or acquired. Protection of heart and prevention of fresh attacks should be main object of treatment. The former secured by rest and counteracting of poisons; the latter by hygienic management, especially of clothing, exercise and bathing.

8. The Attitude of the Physician Towards the Nostrum Evil. Charles Spencer Williamson, M.D., Chicago.

Discussion opened by O. B. Will, M.D., Peoria.

9. Disease in the Aged. W. H. Curtis, M.D., Wilmington.

The senile individual offers, *a priori*, peculiar attractions for the pathologist and therapeutist, senility being the incarnation of disease itself, and always a pathological, never a physiological process. Subject has not received attention it deserves. Literature so widely diffused as to make it practically unavailable to the general practitioner. Investigation shows that while the average age of the individual is gradually growing longer, this increase is confined to the periods of infancy, adolescence, and adult life, and does not apply to the aged. Etiology of senile disease frequently antedates the advent of years. Pathology and therapeusis quite well determined, but the idea that old age is a physiological process is still too much in evidence. The principal factor in senile disease is structural changes in circulatory system, superinduced by action of poisons, introduced from without or generated within. Arterioscleroses the product of not one, but many poisons. Methods for its early detection considered; the reliability of the sphygmomanometer and its effectiveness as a diagnostic aid pointed out. Those old in years and in their arteries not to be regarded as hopeless; much can be done to alleviate and cure chronic conditions. Difficulties attendant upon care of aged invalids shown to be many and peculiar, demanding exercise of infinite tact and patience. Drug treatment of the aged and some presumptive errors of text-book teachings and general practice.

Conclusions are that while the first requisite for longevity is an inborn, perhaps inherited, quality of tissue structure, it is still possible and frequently practicable to detect the onset of pathological processes in middle life whose development is synonymous with that symptom-complex known as old age. When a diagnosis is made, it is possible and frequently practicable to institute effective therapeutic measures. Study of processes of disease in aged, together with their therapeusis, offers rich field for research, and one that deserves more thorough cultivation. Our present knowledge needs revision, amplification, systematization. Third, the student of disease in the aged should be possessed of a peculiar mentality, liberal education, great resourcefulness, tact, patience and sympathy.

10. The Medical Treatment of Non-Operable Malignant Tumors. J. M. G. Carter, M.D., Waukegan.

The despondent attitude usually assumed in these cases. The nature of these growths. Antagonists to such growths. Opinions of eminent men regarding their nature and treatment. Report of cases, with the author's treatment.

11. Hygiene in Our Public Schools. W. S. Strode, M.D., Lewistown.

Cleanliness in and about the schoolroom; cleanliness of students; drainage; pure air; sitting posture of students; light; diet; cigarettes; guarding against epidemic diseases, etc.; sleep; cramming; etc.

12. Methuselah's Letter to His Son. H. S. Metcalf, M.D., Mount Carroll.

13. Adolescence. Frank Parsons Norbury, M.D., Jacksonville.

14. Some Phases of Modern Environment and Their Influence. W. C. Bowers, M.D., Decatur.

Hereditary dispositions and traits may be modified by environment. The first influence on the human being is through heredity. The child has a right to be well-born. Conditions influencing this. Everything should be sacred to the growth and

development of the child. At the age of three or four the child's ruling instinct is self-gratification. Sexual knowledge and ideas of chastity should be properly inculcated into the mind of every child. Conclusions.

15. Macroscopic Agglutination of the Typhoid Bacilli as a Diagnostic Test for the General Practitioner. A. M. Stober, M.D., Chicago.

Origin; development; perfection of technique; collection of blood; dilutions; necessity of uniform methods. Emulsions used; preparation of same; preparation now on market. Details of test. Significance of reaction. Practical results. Comparison with microscopic agglutination test. Suggestions for general adoption.

Discussion opened by Adolph Gehrmann, M.D., Chicago,

16. A Few Short Cuts and Useful Novelties in Laboratory Diagnosis. Milton Weston Hall, M.D., Chicago.

Urinalysis. Methods for total nitrogen, urea, uric acid and ammonia. Stomach examination. The Sahli Desmoid bag.

17. The Necessity for and the Benefits to be Derived from a More Systematic Examination in All Cases. Asa L. T. Williams, M.D., Vandalia.

Illustrated by the failure to recognize and treatment of adenoid vegetations as nasal catarrh; failure in the early recognition of pulmonary tuberculosis, and treatment of appendicitis as acute indigestion. Emphasis will be placed on the necessity of making, where possible, a pathological and etiological as well as clinical diagnosis. The benefits to the patient are saving of valuable time, relief of suffering, and in some cases the saving of life. The benefits to the physician are the increase of knowledge and a stimulus to more reading and investigation, resulting in better service and the consciousness that we have done the very best for our patients and humanity.

Address. Tuesday night. Hon. Chas. S. Deneen, Governor of Illinois.

WEDNESDAY, MAY 16TH.

18. Lordosis, with report of case. M. S. Marcy, M.D., Peoria.

Cause. Muscles and nerves involved. Early diagnosis important, if relief is hoped for. Proper treatment.

Discussion opened by C. L. Mix, M.D., Chicago.

19. Newer Ideas on the Treatment of Obesity. Alfred C. Croftan, M.D., Chicago.

The science and the art of reduction cures. The calorimetric method. The three degrees of obesity and their management. The restriction of liquids; the element of exercise. The treatment of complications. Thyroid therapy. Results.

20. Some of the Problems of the Internist which Concern the Surgeon. J. F. Percy, M.D., Galesburg.

21. Significance of Hydrochloric Acid Variation in the Stomach Contents. E. J. Brown, M.D., Decatur.

1. Relative importance of HCl determination to other chemical findings and to physical examination of stomach.
2. Errors in diagnosis from placing too much reliance upon HCl tests.
3. Relations of HCl excess to so-called "bilious attacks," muscular rheumatism, gout, eczema, etc.
4. Value of HCl tests in hyperchlorhydria, achylia gastrica, gastritis, cancer, ulcer, neurasthenic gastrica.
5. Some new methods in diagnosis of stomach diseases.

22. Serous Inflammations.

(1) Pathology and Pathogenesis of Pleuritis, Pericarditis and Mediastino-Perdicarditis; Clinical and Bacterial Etiology. F. R. Zeit, M.D., Chicago.

(2) Cytodiagnosis of Pleuritic and Pericardial Fluids of all Sorts. A. A. Goldsmith, M.D., Chicago.

1. Survey of the literature.
2. Reaction of tissues to bacteria.
3. Application of these principles in cyto-diagnosis of pleural and pericardial fluids.
4. Conclusions.

(3) Empyema; Pathogenesis; Pathological Anatomy; Symptoms, Diagnosis and Treatment. L. C. Taylor, M.D., Springfield.

(4) General Symptomatology and Physical Signs of Pleuritis, Mechanical Effects of Fluid and Special Symptoms. C. S. Williamson, M.D., Chicago.

(5) Pericarditis; General Symptoms and Physical Signs; Mechanical Effects of Fluid Distention of the Sac. C. A. Elliott, M.D., Chicago.

(6) Differential Diagnosis of Pleurisy, and of Its Various Forms, Including Empyema; Differential Diagnosis of Pericarditis and Its Various Forms. E. F. Wells, M.D., Chicago.

(7) Treatment of Pleurisy and Pericarditis, and of Their Various Forms. N. S. Davis, M.D., Chicago.

23. Serous Inflammations.

(1) Pathogenesis, Etiology and Pathology of Peritonitis. Wm. A. Evans, M.D., Chicago.

(2) Pathogenesis of Ascites. Theodore Tieken, M.D., Chicago.

(3) Cytodiagnosis of Ascitic Fluids. C. Koehler, M.D., Chicago.

(4) General Symptomatology and Physical Signs of Peritonitis. C. L. Mix, M.D., Chicago.

(5) Differential Diagnosis of Peritonitis and Its Various Forms. Ellis E. Kerr, M.D., Chicago.

Brief review of causes, origin and pathology of peritonitis; the symptoms and signs of acute general peritonitis; differential diagnosis; diagnosis of cause; some atypical cases of general peritonitis; the diagnosis of perforation in typhoid fever; specific forms of peritonitis; tubercular peritonitis; pathology, clinical symptoms and physical signs; differential diagnosis; gonorrheal peritonitis; pathology, symptoms and signs; pneumococcus peritonitis; pathology and clinical findings. Conclusions.

(6) Medical Treatment of Peritonitis and Ascites. Wm. E. Quine, M.D., Chicago.

(7) Surgical Treatment of Peritonitis and Ascites. Weller Van Hook, M.D., Chicago.

24. The Public Health and Marine Hospital Service: It's History and Some of Its Achievements. G. B. Young, M.D., Medical Officer in Command, Chicago.

25. Facts and Fallacies Concerning Interstate Reciprocity in Medical Licenses. J. A. Egan, M.D., Springfield.

THURSDAY, MAY 17TH.

26. The Opium Habit and Its Treatment. George F. Butler, M.D., Winnetka.

27. How to Select Foods for Invalids. J. A. Wesener, Ph.C., M.D., Chicago.

1. Consideration of food values. How to arrive at making correct balanced rations. 2. Physiology of the intake and outgo. 3. The preparation of food from the standpoint of making it more digestible and assimilable. 4. The question of proper diet in diseases and in certain idiosyncrasies.

28. Pain, with Its Indication. L. G. Vogt, M.D., Freeport.

Relation to disease, and its characteristics in different diseases.

29. Pain as a Symptom of Kidney Disease. S. W. Hopkins, M.D., Walnut.

1. Definition of this term as applied to the present paper: Cramp, aching, tenderness, soreness on motion, smarting and burning, tension, etc. 2. The misinterpretation of symptoms and signs by the patient. 3. Pain which (*a*) is indicative of kidney disease, near or remote. (*b*) is not indicative of kidney disease, near or remote. 4. The value of pain as a danger signal of kidney disease as compared with some other symptoms and signs. 5. Some illustrative cases. 6. Conclusions. 7. Authorities.

30. Diabetes not a Disease per se, but a Condition, Accompaniment or Sequela of Several or Numerous Different Diseases. S. A. Oren, M.D., Lewistown.

Diabetes mellitus from the earliest mention in our medical literature, showing how several of our forefathers in medicine considered it, and how they arrived at their conclusions; several of their experiments and observations; calling attention to efforts made to change the meaning of the name, in order to have it conform to modern observations—comparing the conditions and history to that of dropsy. Suggesting a new definition for the condition in preference to garbling our language and nomenclature.

31. Modern Conceptions of the Metabolism of the Diabetic. Ralph W. Webster, M.D., Chicago.

Definition of diabetes. Glycosuria: Conditions under which it may occur in the non-diabetic and in the diabetic. Theories regarding glycosuria. The acetone bodies. Importance of ammonia determinations. Coma diabeticum. General metabolic changes in diabetes.

32. Treatment of Bright's Disease. O. W. Ferguson, M.D., Mattoon.

33. Some Important Phases in Therapeutics. A. R. Spriggs, M.D., Flora.

Therapeutics too much neglected in our medical colleges. Practitioners are too much given to routine methods in prescribing, and not as well versed on effects of remedies used as they might be, and not sufficiently careful in selections as to quality and pushing same to effect.

34. The Progress of Serum-Therapy During the Last Year. E. R. Larned, M.D., Chicago.

1. Classification of sera as to their being efficient or inefficient. 2. Efforts to produce new sera. 3. Efforts to improve sera which have been inefficient for the purpose intended. 4. Investigations into the possibility of making efficient antigonorrheal and antisyphilitic sera. 5. Modifications of the Widal test for the diagnosis of typhoid fever. 6. Wassermann's serum in the treatment of diphtheria.

35. Medical Side of Ophthalmology. J. F. Burkholder, M.D., Chicago.

A plea for the ophthalmoscope as an instrument of diagnosis in the hands of the general practitioner.

36. Defects of Vision and Hearing in the Public Schools.

(1) Visual and Aural Defects, and Their Relation to Education. J. Whitefield Smith, M.D., Bloomington.

(2) Reflex Nervous Symptoms of School Children, Due to Impaired Vision and Hearing. Frank Parsons Norbury, M.D., Jacksonville.

(3) Subjective Symptoms of Eye-Strain and Their Effects on the Pupil's Work. Albyn L. Adams, M.D., Jacksonville.

(4) Neglected Cases of Chronic Suppurative Catarrh of the Middle Ear, and the Effects Upon the School. Norval H. Pierce, M.D., Chicago.

(5) The Importance of Good Illumination, and the Proper Method of Lighting. James A. Egan, M.D., Springfield.

37. The Spirocheta and Its Relation to Syphilis. W. L. Baum, M.D., and F. Robert Zeit, M.D., Chicago.

38. The Rheumatic Diseases. Benjamin Bachrach, M.D., Decatur.

1. Introductory. 2. Acute rheumatism. 3. Muscular and chronic articular rheumatism. 4. Rheumatoid arthritis. 5. Gonorrheal rheumatism. 6. Conclusion.

39. Arthritis Deformans. Edwin W. Ryerson, M.D., Chicago.

Definition. Classification of different varieties. Importance of differentiating hypertrophic from atrophic arthritis. Modern views of etiology. Autointoxication theory. Rapid survey of pathology, symptoms and diagnosis. Prognostic difficulties. Treatment. Uselessness of drugs. Results of serum treatment. Value of orthopedic measures.

40. Pneumonia. R. H. Bradley, M.D., Marshall.

Lobar or croupous pneumonia is the type treated of in this paper. Regarded as one of the acute infectious diseases. The different lesions and clinical symptoms; the direct results of a specific virus. Author will not enter minutely into the bacteriology of the subject, but would say that the pneumococcus discovered by Sternberg and rediscovered by Fraenkel, is generally believed to be the causal agent. The existence of the virus in the mouths and lungs of healthy persons seems to have a very important bearing on the origin of the disease. A chill may simply lower the resisting power of the lung to the pneumococcic invasion. Toxemia, and not the amount of lung involvement, should be the guide to prognosis and treatment. Symptoms and physical signs, a chill or rigor, and abrupt elevation of temperature. Headache, malaise, loss of appetite, aching in the limb, pain in lungs, expectoration rust-colored or red; skin dry. Treatment: Eliminants, stimulants. As to the results of different methods of treatment, thus far there has been no specific found.

Discussion opened by H. W. Chapman, M.D., Whitehall.

41. Venesection: A Too Often Neglected Procedure. W. S. Harpole, M.D., Chicago.

1. General considerations. Many practitioners do not do venesections under any circumstances. Little taught on the subject in medical schools. Merits of the measure as shown in the past. 2. Discussion of the indications; I. The indications which have been accepted. II. The two chief indications to-day. (a) Circulatory disturbances. (b) Intoxications. 3. Illustrative cases.

42. Exophthalmic Goiter. S. M. Miller, M.D., Peoria.

Exposition of the present status of our knowledge of the cause, the symptoms, and of the disease. The relation of the thyroid gland to metabolism; relation of the gland to the parathyroid gland. The various sera, used in the treatment of exophthalmic goiter. Organotherapy. The use of the *x*-ray. Comparison of results of treatment by the various methods. Comparison with the results of operative treatment. Report of three cases.

43. Headache: Its Significance and Treatment. L. Harrison Mettler, M.D., Chicago.

Headache not a disease with a pathology and group of symptoms. Merely a symptom. As a symptom merely, it calls for no diagnosis; diagnosis involves only the cause of the headache and the disease of which it is a symptom. A conception the reverse of this is too often the reason for the failure in the proper management of headache. The causes of cephalalgia and a working classification of them. The physio-psycho-pathology of headache and an analysis of head-pain. The symptomatology of headache and some time-honored errors in connection therewith. Prognosis as its basis. Treatment, irrational and rational.

44. What the Health Department of Chicago Has Done and Is Doing to Safeguard the Public Health. Charles J. Whalen, M.D., Commissioner of Health, Chicago.

SECTION TWO.

Surgery, Surgical Specialties and Obstetrics.

Chairman.....J. R. Christie, Quincy
Secretary.....S. C. Plummer, Chicago

Address—Some Hindrances to Surgical Progress. D. W. Graham, Chicago.

1. Peri-Rectal Abscess. Chas. J. Drueck, Chicago.

Will emphasize frequently overlooked details in the treatment of perirectal abscess and will take up the pathology, symptoms and diagnosis to the extent of making clear what is to follow. Under treatment will be considered the necessity of immediate evacuation. Facts and fallacies of different methods of obtaining drainage, with a few remarks relative to the method employed by the writer. Danger of autointoxication and pelvic congestion during the postoperative treatment and how prevented. How long and to what extent shall the patient be kept under control?

2. The Diagnosis of Brain Lesions Following Skull Fractures. S. M. Miller, Peoria.

Skull fractures owe their importance to injuries to contiguous structures, the brain, its coverings, blood vessels and nerves. The diagnosis of skull fracture is the diagnosis of the associated brain lesion. Discussion of the diagnosis of (1) diffuse brain lesions, concussion, compression and contusion; (2) focal lesions, with illustrative cases of (*a*) concussion, followed by prolonged delirium; (*b*) concussion followed by compression from meningeal hemorrhage, with focal cortical lesion; (*c*) concussion, with focal lesions from basal fracture from involvement of the cranial nerves; (*d*) illustrating the confusion of simple alcoholics with those suffering from head injuries; (*e*) uremic coma simulating skull fracture.

3. Injuries of the Head. E. Sargent, Moline.

DIAGNOSIS AND TREATMENT.

1. Concussion.
2. Contusion.
3. Compression.
   (*a*) Depressed fracture.
   (*b*) Hemorrhage.
      (1) Immediate.
      (2) Delayed (meningeal).
4. Fracture of base.

4. The Brain a Good Field for Surgery, as Shown by Its Disregard for Traumatism. C. D. Center, Quincy.

1. An effort to show, by numerous well-authenticated cases of traumatism, that many portions of the brain need not be considered vital parts; that less reluctance should be shown by surgeons in invading the brain, under antiseptic precautions, the argument being based on the insensitiveness of the brain to injuries.

2. The reason for much unsatisfactory brain surgery in the past is that operative measures have been used too much as a last resort, instead of a first resort, and operation has been done in the presence of inflammation, sepsis, or both.

3. Report of a case of gunshot wound of the brain, where the ball traversed the brain once in antero-posterior diameter, and partially traversed again in richochet. Skiagraphs of head of patient at present time with some interesting phenomena noticed during the progress of the case.

5. Notes on Renal Diagnosis with Reference to Nephrotomy, Nephrectomy, Nephrorrhaphy and Plastic Pelvo-Ureteral Surgery. Frederick A. Leusman, Chicago.

The objective evidences of urethral, prostatic, cystic, ureteral and renal lesions. Comparison of methods for collecting separately the urine from each kidney, i. e., urine segregators and ureter catheterization. Reference to cryoscopy of the urine and blood, indigo-carmine and methyline blue and phloridizin tests. Difficulties of renal diagnosis despite all these tests, skiagraphy included. Problems for the surgeon. Associated surgical lesions. Preliminary diagnosis, diagnosis and surgical treatment on the operating table. Considerations and conditions pointing to nephrotomy, nephrectomy, nephrorrhaphy or plastic pelvo-urethral surgery. Difficulties in technic and end-results attending matter. Importance attending diagnosis and early surgical intervention.

6. Symposium on Fractures.

(1) Treatment of Compound Fractures. E. H. Ochsner, Chicago.

Definition, distribution, first aid. In what cases can the limb be saved and when is primary amputation justifiable? Method of disinfection, including prevention of tetanus. When to do plastic work for the repair of bones, tendons, nerves, etc. Method of drainage and wound closure. Secondary shock. Immobilization.

(2) The Use of Extension Frames in the Treatment of Fractures of the Thigh and Leg by Ambulatory Casts. Frederick Mueller, Chicago.

The ambulatory plaster cast the most convenient and natural treatment for all fractures of the thigh or leg. Its application dangerous in some cases on account of possibility of disarranging fracture once set. Since many years apparatus have been constructed to overcome this difficulty. First apparatus that of Bruns, later on, Lorenz, who built an apparatus especially for the application of plaster casts after orthopedic operations The author describes a new apparatus, which, besides showing all the advantages of the Lorenz apparatus, is especially built for the general use in the treatment of fractures. The setting of all kinds of fractures, even spiral fractures, can be accomplished by this apparatus with the greatest convenience for the surgeon, as well as for the patient. An exactness in the adaptation of the broken bones can be accomplished in a natural way, unobtainable by any other way of treatment.

(3) The Operative Treatment, in Fractures Presenting Obstacles to Reduction. Wm. Fuller, Chicago.

Introductory remarks. Importance of a correct differential diagnosis and proper selection of cases. Comparatively slight value of the fluoroscopic view or *x*-ray picture in fractures of this kind. Personal experience with this type of fracture. Safety of the operation as regards infection; technic of the operation. Literature of the subject. Conclusions.

(4) The Roentgen Ray in Fractures. W. R. Cubbins, Chicago.

(5) Pathological Fractures Resulting from Metastatic Carcinoma. A. E. Halstead, Chicago.

7. The Diagnosis of Abortion. H. I. McNeil, Newman.

1. Introduction. The frequence of abortion. The importance of diagnosis. Failure to make an exact diagnosis.

2. The essentials of a diagnosis.

(*a*) As to fact of abortion. Was the woman pregnant? Differential diagnosis. Injuries, tumors, spontaneous hemorrhage, etc.
(*b*) As to cause of abortion. Nature of the condition, accidental or induced, pathologic, traumatic, habitual, etc.
(*c*) As to degree. Threatened abortion. Complete or incomplete retention of membranes.
(*d*) As to sequelæ. Infection, hemorrhage, element of prognosis.

3. The means of diagnosis.

(*a*) Personal history. Statements of patients; statements of friends or family; physician's personal knowledge of case.
(*b*) Symptoms: Pain, uterine contractions, hemorrhage, temperature, etc.
(*c*) Physical signs: Prostration, dilatation of the os.
(*d*) Anatomic diagnosis; gross and microscopic. Development of fetus, atrophied fetus, etc.

4. Medicolegal aspect: See ILLINOIS MEDICAL JOURNAL, January, 1905.

5. Remarks in closing. Is diagnosis complete? Should we be more careful in making a diagnosis?

8. Abortion. Le Roy Newlin, Hardinsville.

Causes. Effect on future health of individual.
Treatment. 1. Prevention, if possible. 2. Management when prevention is impossible. 3. After-treatment.

9. Problems in Appendicitis. H. N. Rafferty, Robinson.

Appendicitis question, although hackneyed, is unsettled in many respects, as shown by bedside contact with individual cases.
Nothing new to offer in the way of diagnosis or treatment.
All extremes have been reached in formulating methods of treatment, yet mortality prevails.
Difference between radical conservatism and conservative radicalism.
Difficulty in conduct of cases, due to inability to judge extent of lesions from either subjective or objective symptoms.
What is the remedy?
Difference between our theory and our practice.
Views from an English text-book.
Practical problems encountered in six years general practice.
Narration of parallel cases, as types.
Recapitulation.
When will these problems be solved?

10. Appendicitis Complicating Pregnancy and Labor. Effie L. Lobdell, Chicago.

Symptoms, diagnosis and treatment. Three illustrative cases.

11. Angioma and Its Surgical Treatment. Carl Beck, Chicago.

Brief historical review. Present method of surgery of the angiomatous growths. Payr method. Wyeth method. Excision, electro-surgical method, my own method of subcutaneous excision and suture with gradual growth of normal neighboring skin.

12. Cholelithiasis. H. R. Lemen, Alton.

Frequency, as found at autopsy. Lack of symptoms in some cases until severe secondary sequelæ develop. Other conditions beside presence of gallstones needed to produce symptoms. Etiology: Theory of Galen, of Budd, of Morgagni, of Meckel von Hemsbach, present idea of stasis and infection. Bacteria and way of entrance into gall bladder, causes of stasis, predisposing causes of cholelithiasis. Pathology: 1. Cholecystitis. 2. Cholangitis. 3. Hepatic changes. 4. Pancreatic changes. 5. Other changes. Diagnosis: Infrequency of icterus, Hamels and Riegius tests for bile, differential diagnosis between jaundice of stone obstruction in common duct and pressure on same from without, differential diagnosis between cholelithiasis and other diseases. Treatment: Preventive, palliative and radical.

13. The Induction of Premature Labor, Including the Vaginal Cesarean Section. Joseph B. De Lee, Chicago.

1. Definition. The artificial interruption of pregnancy after the viability of the child before term.

2. Indications.
   (a) Contracted pelvis. Abnormally large growth of child.
   (b) Diseases incident to pregnancy; as eclampsia, toxemia, placenta prævia, hyperemesis gravidarum, chorea, etc.
   (c) Diseases accidental to pregnancy; as tuberculosis, heart disease, blood dyscrasiæ, etc.
   (d) Habitual death of fetus after viability but before term.

3. Conditions or prerequisites.
   (a) Viability of child.
   (b) Pelvis not too contracted
   (c) Mother not moribund.
   (d) Consent of mother and counsel.

4. Methods.
   (a) Bougies (cause).
   (b) Bougie and gauze tamponade (author).
   (c) Puncture of the bag of waters.
   (d) Dilatation of the cervix and lower uterine segment by hydrostatic bags, etc.
   (e) Mechanical dilators.
   (f) Vaginal Cesarean section. Advantage and dangers of each procedure.

14. Shortening the Round Ligaments at the Internal Ring for Persistent Retroversion of the Uterus. F. H. Martin, Chicago.

The paper consists of a description of the technic of shortening the round ligaments through the internal ring, after opening the abdomen by a ventral incision. It is accomplished by making a stab wound through the aponeurosis of the external oblique at the point where it passes over the internal ring. Through this opening is passed a pair of sharp artery forceps, penetrating the peritoneum at the point beneath the internal ring, grasping the round ligament within an inch and a half of its insertion into the uterus and drawing the same through upon the aponeurosis and securing it there by means of a non-absorbable suture.

The operation is unique in its simplicity, the perfect security of the round ligaments, the employment of the strong ends of the round ligaments, and the shortening of the ligaments in the line of their normal axis.

1. Ascertain (1) Time of conception
   (2) Time of delivery.
2. General examination of (1) Mother.
   (2) Pelvimetry.
   (3) Baby.
3. Preparation for labor (1) Mother.
   (2) Bedroom.
   (3) Instruments.
4. Labor (1) Care of first stage.
   (2) Care of second stage.
   (3) Care of third stage.
5. Complications (1) Indications for forceps, Cesarean section, etc.
   (2) Placenta prævia.
   (3) Eclampsia.

15. The Surgical Treatment of Mother and Newborn Babe by the General Practitioner. J. J. Roach, Chicago.

16. Some of the Complications and Emergencies Met with in Surgical Treatment of the Ovarian Cystoma. G. L. Eyster, Rock Island.

Enumeration and description of various complications of ovarian cystoma: Twisting of the pedicle; hemorrhage into the cyst; infection and suppuration; adhesions; displacements, due to enlargement of other pelvic or abdominal organs.

A plea for the split flap method of relieving such sessile adhesions to abdominal viscera, as may endanger their integrity, by the ordinary method of enucleation.

A report of two cases illustrating some of these complications and emergencies.

17. The Need of Publicity in Venereal Prophylaxis. Denslow Lewis, Chicago.

The existence and detrimental effect of venereal diseases are acknowledged. The necessity for education apparent. The public should know the possibilities regarding infection through impure intercourse and innocently. The Society of Sanitary and Moral Prophylaxis, organized a year ago, takes cognizance of existing conditions and seeks to remedy them by a diffusion of the knowledge we already possess and by scientific investigation of the economic, sociologic and pathologic conditions, which constitute the etiologic factor. The necessity of an active co-operation on the part of the profession is obvious. The need of interesting the public, so that active measures, largely educational, may diminish the ravages of the venereal plague is conceded. False modesty and maudlin sentimentality must not interfere with a thorough knowledge of omnipresent danger, so that effective prevention may result from earnest effort. The duty of the profession in every township is to disseminate a knowledge of the truth. The necessity of active endeavor everywhere should excite every humanitarian to do his utmost, by a consistent prophylaxis, to diminish the ravages of these loathsome diseases.

18. Symposium on Surgery of the Prostate Gland.

(1) How Can We Secure the Co-operation of the General Practitioner in the Surgical Treatment of the Enlarged Prostate? Carl E. Black, Jacksonville.

History of surgery of the prostate, with especial reference to surgical failures and their influence on the profession. Not surprising that it is difficult to have the present operations accepted. What proof is there of the correctiveness of the present surgical procedures? The influence of medical organizations in disseminating information and their uses for postgraduate instruction. The character of the men who should give such instruction. The apparent conflict between medical and surgical advice. The weakening influence of division of the profession into societies and sections of specialists. The value of papers on surgical topics by general practitioners. The various side issues which prejudice us.

(2) The Present Status of the Bottini Treatment of Enlarged Prostate. F. Kreissl, Chicago.

Review of the recent literature on the subject. Discussion of the apparatus and its various modifications. The operation and its underlying principle. Technic, immediate and final results. Failures and fatalities, and their causes.

(3) The Passing of Perineal Prostatectomy. W. T. Belfield, Chicago.

1. Urinary retention in elderly men is caused by various conditions other than prostatic disease, including tabes, vesical sclerosis, calculus and carcinoma. These should be eliminated before prostatectomy is considered.

2. By perineal prostatectomy is understood the exposure of the posterior (rectal) surface of the prostate by incision through the perineal muscles, inverted V-shaped, enonilinears or other, and the removal of the adenomata through this posterior surface. This operation, so popular in recent years in France and the United States, has been abandoned by some of its former advocates, because it is followed in so many

cases by permanent urinary fistula, permanent incontinence of urine and troublesome cicatricial contraction (stricture) of the deep urethra, comprising probably 40 per cent. of those who survive the operation.

The reason for these sequelæ appears to be the extensive destruction of the perineal muscles and cicatrix formation.

3. A simple perineal urethrotomy, a clean median incision without destruction of the perineal muscles, suffices for the enucleation of prostatic adenomata into the bladder in many cases, without danger of permanent fistula and incontinence.

4. When the prostatic outgrowths are larger, especially the median lobe, they are best removed through a suprapubic incision. The mortality of the latter, formerly relatively high, was chiefly caused by septic infection of the suprapubic tissues through the urine. This infection is minimized by perineal drainage, the suprapubic wound being drained by gravity into the bladder, and thence through the perineal tube. Further security is obtained, if deemed necessary, by making the suprapubic cystotomy in two stages.

5. These two operations should supplant perineal prostatectomy, first, because they are seldom followed by fistulæ, incontinence, etc.; second, because they are less severe, more quickly performed and require less anesthetic; third, because their mortality is no greater.

(4) Contribution to the Surgery of the Prostate. M. R. Barker, Chicago.

Disarrangement and destruction of vesical structures in hypertrophied prostate and consequent functional disturbances. Postoperative urinary troubles are due to these conditions and not to the operation. What should be the attitude of the physician toward these patients when he first sees them and what may he expect from his patient from surgical procedures.

(5) Indications for, Limitations and Clinical Results of Prostatectomy. J. B. Murphy, Chicago.

Indications for prostatectomy are now well accepted and clean cut. The early operation is the one that precedes catheter life, severe vesical infection, not to speak of ascending pyelitis. The technical procedure as to route is always elective in the individual case. The results have been very gratifying:

a. As to urinary continence.
b. As to dispensing with catheter.
c. Cure of suppurative cystitis.
d. Absence of fistulæ.
e. Prevention of epididymitis.
f. Life saving.

There is no operation that taxes the surgeon's judgment as to the personal resistance equasion so much as the operation for prostatectomy.

(6) Perineal Prostatectomy, the Operation of Choice. A. H. Ferguson, Chicago.

19. Vasectomy, with or Without Subsequent Anastomosis, with Special Reference to the Treatment of Certain Inflammatory and Neuropathic Disturbances of the Male Sexual Apparatus. G. Frank Lydston, Chicago.

The operation of vasectomy is a legitimate means of relief for certain conditions. Cord operations in suitable cases have a profound influence on the innervation and circulatory supply of the prostate and seminal vesicles, and, incidentally, a marked effect upon nutrition must result. Vasectomy is not indicated in any case in which there is a reasonable probability of relief being afforded by less radical means. The operation, when properly performed, is practically free from danger. Vasectomy has a certain range of application in sexual neurasthenics, spermatophobiacs and in genuine spermatorrhea. The operation is of the greatest value in intractable chronic prostatitis and seminal vesiculitis. Its beneficial effects are due, not only to the change which it induces in the circulation and innervation of the prostate, but also to the rest which it secures to the seminal vesicles. Vasectomy has a certain range of application in suspected or known tuberculosis or malignant disease of the testis. In inoperable malignant disease of the prostate, with severe hemorrhages, vasectomy has, in the author's experience, been beneficial.

Technic of the operation of anastomosis of the vasa deferentia. In a certain as yet undetermined proportion of cases it is possible to so anastomose the divided vasa deferentia as to re-establish their continuity.

Of four cases operated on in this manner, one has shown a restoration of the function of the vas on one or both sides by the presence of spermatozoids. Of the other three, one is apparently a failure. There has been no opportunity to determine the condition of the remaining two.

20. The Consideration of Serious Surgical Emergencies. J. A. Day, Jacksonville.

The author emphasizes the extreme importance of prompt and efficacious treatment in all desperate surgical conditions, and recommends radical surgical interference in the majority of such cases.

It is admitted that such effort, in the great majority of cases of this character, is unattended with success, and usually brings discredit rather than glory to the surgeon. But, nevertheless, as experience has repeatedly proved that certain cases recover, where heroic surgical measures have been instituted *in extremis*, the fear of criticism alone should not cause him to refrain from making effort to save life. The cases that come under this heading are all dangerous surgical accidents, in the broadest sense of the word, viz., accidents that occur from direct traumatism, as well as those that arise as a result of a diseased process, pure and simple.

Attention is called to the fact that in serious accidents due to direct violence the surgeon is likely to be confronted by conditions where the exact gravity of the case and the urgent necessity for prompt surgical interference is self-evident; there is not the same necessity for good judgment, therefore, regarding the best course to pursue, as in those accidents due to disease in its strictest sense.

Undue haste in doing the protracted operation, after a severe traumatism during shock or transporting such a patient a long distance where surgical aid can be procured, save in exceptional cases, is strongly condemned. Perfect quiet and immobility, with appropriate measures for treating the shock and controlling the hemorrhage, if present, is advised instead.

The danger of terrorizing a patient and thus adding to the shock, under such circumstances, is referred to, and for this reason all nervous excitement should be withdrawn.

The dangerous accidents that come about from disease, pure and simple, and the various accidents that do occur of this nature, are then considered, together with appropriate surgical treatment.

The three great bugbears that usually occur and lessen the chances for recovery in such cases, viz., shock, hemorrhage and infection, are spoken of respectively, and their treatment suggested.

The author concludes the paper by making a strong plea to the profession for keeping up the fight in desperate surgical cases, even in the face of what appears to be certain death, ignoring unjust criticism.

21. Sarcoma in Childhood; Report of a Case with Specimen. W. K. Newcomb, Champaign.

General characteristics of sarcoma. Modifications in relation to age. Causative features in development. History of case. Exploratory laparotomy. Propriety of operating on incurable cases for temporary relief. Exhibition of specimen from child 3½ years old.

22. Injuries to the Pelvic Floor During Parturition. Frank C. Robb, Farmington.

I will confine myself to such injuries as are designated as perineal lacerations, the frequency and results of the accident, predisposing and active causes, avoidable and unavoidable, with a special consideration of the forceps as a factor.

Methods of determining the character and extent of the injury, with a consideration of a special classification. Indications for primary and subsequent repair. A method for submucous denudation in secondary operation. A new technic for suturing sphincter-ani muscle. A general consideration of the after-treatment.

23. Treatment of Blenorrhea of the Lachrymal Sac, with Special Reference to Sac Extirpation. W. O. Nance, Chicago.

Chronic dacryocystitis an exceedingly annoying process, and a source of danger to the integrity of the eye. Course of the disease almost invariably obstinate, and frequently resisting for months and even years, treatment by probing, syringing and correction of nasal abnormalities. Removal or destruction of diseased mucous membrane of lachrymal-nasal duct positively obligatory, preliminary to operations upon the globe of the eye. Other indications for extirpation of sac. Some practical points suggested concerning the technic of the operation. Essentials of success in operating. Results. Changes in lachrymal gland following extirpation of sac.

24. The Operative Treatment of Chronic Discharges of Ear. A. E. Prince, Springfield.

1. A very large percentage of cases of middle ear discharge is due to chronic suppurative mastoditis.
2. Complications which are liable to result when the disease is not controlled.
3. The results of the efforts of Nature in bringing about a spontaneous cure.
4. Duty of the surgeon to assist Nature.
5. The results of imperfect operations in which the surgeon has failed to remove all of the cells, and thus actually increases the danger of fatality.
6. Summary of points in the radical operation which are designed to bring about a permanent cure in the least possible time.
7. Illustrative cases.

25. Femoral Hernia. W. E. Schroeder, Chicago.

26. Gastro-Duodenostomy. Joseph B. Bacon, Macomb.

The new device for anastomosis that I will show is based upon the principle of catching all of the connective tissue of the walls of both stomach and intestine in the grasp of an elastic ligature, and thus compressing them against a metal cylinder as a base until pressure necrosis of this tissue takes place.

A part of this operation is done intragastrically, so that the ligature and the dumb-bell cylinder are both left within the intestinal canal. The cylinder being hollow, enables one to use it when there is complete stenosis of the pylorus.

A specially devised forceps is used to crush the muscularis and mucosa in a circle, so that the ligature may be securely tied around the dumb-bell handle.

All of the connective tissue being thus grasped in one ligature, makes an absolute barrier against infection and leakage, and at the same time assures a firm coaptation for from three to five days, while the new lymph is becoming organized. By this method we are also enabled to elect any point of the duodenum for anastomosis.

27. Hoarseness as a Symptom of Malignancy of the Larynx. O. J. Stein, Chicago.

Owing to the frequency of chronic hoarseness, its significance as a forerunner symptom of malignancy is commonly overlooked. Necessity for the greatest degree of detail in the examination of the larynx, as well as repeated examinations at short intervals, in order to clear away any doubt in the diagnosis. The diagnosis must be established at the very earliest possible time in order to reap the greatest chance of benefit. The simplicity of treatment, with a high percentage of cure, when the diagnosis is made early, compared with an almost hopelessness where the diagnosis has been delayed.

28. Surgical Aspects in the Aged, Based on an Observation of Four Years' Service as Assistant Surgeon to Illinois Soldiers' and Sailors' Home. Geo. E. Rosenthal, Quincy.

Character of operations in this service. Preponderance of amputations and herniotomies. Contraindications for frequent surgical intervention. Aversion of these patients to operation. Results obtained.

29. Symposium on Carcinoma.

(1) Popular Agitation for the Early Operative Treatment in Carcinoma. G. N. Kreider, Springfield.

1. Cancer a frequent and increasing disease.
2. Remarkable superstitions about the disease.
3. Not so fatal as generally supposed.
4. Need of teaching physicians and public the early symptoms.
5. Great number of totally uneducated persons using the strongest, most painful means of treating the disease.
6. Use of salves and washes that are entirely useless.
7. All abnormal growths should be extirpated early.
8. Early extirpation of cancer absolutely necessary.
9. Inoperable cases should be treated and the patient be given hopes of recovery.

(2) Carcinoma of Intestines. Weller Van Hook, Chicago.

(3) Carcinoma of the Gall-Tracts and Liver. Bayard Holmes, Chicago.

Carcinoma as an increment in the indications for the early treatment of cholecystitis and the prevention of advanced cholelithiasis. Percentages of carcinoma in biliary apparatus with and without previous cholelithiasis. Location of primary carcinoma in biliary tract, diagnosis and treatment, results of treatment.

(4) The Operative Treatment of Superficial Carcinomata. D. N. Eisendrath, Chicago.

By superficial carcinomata are understood those of the lip, tongue, ear, extremities and external genitalia. The reason for recurrence, in many of these cases, is that no attention, or but little, has been paid to the removal of the secondary deposits in the surgical anatomy of the lymphatic supply of the above regions. A plea for a thorough removal of the secondary foci, simultaneously with the extirpation of the primary growth. The two operations can be readily done at one sitting. The extirpation of the lymph nodes, preceding that of the primary tumor, on account of the lesser danger of infection of the operative field. Description of the technic as used by the author in his work during the past years.

(5) The X-Ray Treatment of Cutaneous Carcinoma. E. A. Fischkin, Chicago.

1. As a curative measure.
2. As a preoperative measure.
3. As a postoperative measure.

30. The Logic of Abdominal Pain. J. L. Wiggins, East St. Louis.

Its proper understanding dependent upon a mastering of the fundamental facts. Location, age, sex and history, in connection with objective signs, necessary for definite diagnosis. Misspelled pain a cause of error.

COUNTY AND DISTRICT SOCIETIES

ADAMS COUNTY.

The regular meeting of the Adams County Medical Society was held March 19 at the Elks Club in Quincy, with President Koch in the chair. Those present were Drs. Ashton, Becker, Christie, Ericson, Fletcher, Hart, Koch, Nickerson, Pfeiffer, Robbins, Rosenthal, Shawgo, Wells, Worley and W. W. Williams. A letter from Dr. L. H. Mettler, of Chicago, was read, accepting an invitation from the society to address it on a neurologic subject on May 14. A committee, consisting of the president and secretary, was appointed to make arrangements for Dr. McCormack's visit April 9.

Dr. R. J. Christie, Jr., reported a case of traumatic epilepsy in a boy of 6, upon whom he had operated with excellent result. At operation it was found that adhesions were present between the meninges and skull and also between the meninges and brain. An area of degeneration was apparent at the point where the meninges were in contact with the encephalon. Cargile membrane was interposed between the meninges and brain, as well as between the meninges and the skull. The convalescence was uneventful; the dressings were changed once at the end of twenty-four hours and primary union was secured. The patient, up to the time the report was made, had been free from seizures. Previous to operation there had been almost daily manifestations.

Dr. W. W. Williams reported an operation for gangrenous appendicitis in a pregnant woman of 26. The appendix was found adherent to the uterus and offered some difficulties of removal. Adjourned.

GEORGE E. ROSENTHAL, *Secretary.*

CHICAGO MEDICAL SOCIETY.

A regular meeting was held February 7, 1906, with the president, Dr. Charles S. Bacon, in the chair. Dr. William J. Butler read a paper entitled "A Consideration of the Febrile Temperatures Observed During the First Days of Life, with a Report of an Epidemic Infection of the Respiratory Tract in the Newborn."

FEBRILE TEMPERATURES DURING THE FIRST DAYS OF LIFE.

WILLIAM J. BUTLER, M.D.

(Abstract.)

Abnormalities in temperature during the first days of life are frequently overlooked, owing to the lack of systematic observation with the thermometer, which alone makes it possible in many cases to determine the presence of disease. The rectal temperature of the newborn averages 37.8° C. (100° F.); it drops one or two degrees during the first few hours, returning to 37.5° C. at the end of thirty-six hours. There is a second decline on the fourth day, followed by a rise, reaching its maximum on the eighth day. Abnormal elevation of temperature is frequent, reaching, in the experience of Eross, 43 per cent. That it was due to infection or toxemia was shown by the result of prophylactic measures, which reduced it to 11.38 per cent. The infection may come from the birth canal or be communicated after birth; it may enter through the navel, the respiratory or the gastrointestinal tract. The symptoms referable to the latter are usually most prominent, even when the original port of entry has been elsewhere.

The author reports four cases, constituting a small ward epidemic, with autopsy findings in the one fatal case. The temperature was elevated in all,

reaching 40.5° C. (105° F.) in two cases; the course of the fever was remittent, and lasted from ten to fifteen days or more. There was catarrh of the nose and pharynx, some cough, mild gastroenteritis, and in two cases a skin eruption, papulopustular in one case, petechial in the other. Restlessness, sometimes drowsiness was noted; occasional vomiting and irregular bowel movements occurred; the urine showed a brickdust deposit, and in one case anuria was present. This was the result of the high temperature rather than its cause. There was more or less discharge from the umbilicus, but the autopsy did not sustain a theory of infection through this channel. Catarrh of the bronchi was established by the autopsy and bacterial study indicated that this was due to the micrococcus catarrhalis and to the pneumococcus. There was decided evidence of contagion, as the infants affected were those placed in the same cot with the first case, while others in the ward escaped.

Prophylaxis requires aseptic treatment of the cord, avoidance of infection from the mother or attendant and the isolation of the sick child. Treatment consisted in sponging or bathing for the high temperature, diluting the breast milk with sterile water or limewater, enteroclysis, and small doses of calomel for the gastrointestinal disturbance, water by mouth and rectum with sodium bicarbonate in enema for the tendency to anuria, and, locally, swabbing of the nares with boric acid solution. Expectorants were avoided for fear of increasing gastric disturbance.

DISCUSSION.

Dr. Effa V. Davis:—The subject of infections in the newborn is interesting to me, although I have never been called upon to treat anything like an epidemic. It seems to me we have forgotten other routes of infection than the eyes of the newborn. The nose, mouth, ears and vagina are exposed to the bacteria of the mother's vagina, and I think every precaution should be taken in bathing the newborn. Oiling is not sufficient. In dealing with the cord in the newborn child it is good practice to bathe it with a solution of bichlorid of mercury, 1 to 2,000. This may seem a little strange, but it is a practice we have carried on for some years, and it is very rare that we have any infection of the navel. The cord is not tied at first, but clamped with forceps and cut five or six inches long. After the hands are washed and the navel itself washed with bichlorid of mercury the cord is then ligated with as much care as should be taken in a surgical operation, cut short and enveloped in sterile absorbent cotton.

As to the care of the mouth, I will say that the mouth of the child is very much exposed to the vaginal discharges, and while I have not been in the habit of washing the child's mouth I still think that is one source of the child becoming infected. The last case which came to my notice at the hospital occurred some months ago. The case was not attended by myself. The mother had a severe hemorrhage, so that her milk supply was not abundant. The child had elevation of temperature for the first few days; it slept in the same cot with other babies and they continued normal. The temperature of the child subsided after the mother's milk became abundant. No treatment except feeding was employed.

Dr. John C. Cook:—I believe it is conceded that very young children are liable to have any of the diseases to which older children are subject. We encounter in our study of the diseases of children some unusual temperatures in the newborn. These high temperatures begin, as a rule, on the second or third day after birth and continue for two or three days in many instances, and when the milk is established they subside without any treatment. In the few cases which I have encountered the high temperature appeared to have been due to a toxochemical condition rather than to a bacteriological; and by administering normal saline solution, getting the kidneys to act and cleaning out the alimentary canal the temperature would be materially reduced, these enemas being given at the normal temperature of the body. It is remarkable sometimes to note what a high temperature a child may have without our being able to find any pathologic condition, so far as location is concerned, even an infection of the air passages or of the intestinal canal or of the cord. I recall a case that I saw on the second

day after birth. The child was crying; it could not be quieted and its temperature was 107°. It was immersed in tepid water to reduce the temperature. The same day a wet nurse was procured, and on the second day thereafter the temperature became normal. There was undoubtedly a lack of fluid in the body that caused this elevation of temperature.

We also have the ordinary lung infections in young children. In most of these cases the high temperature is of bacterial origin. We not infrequently find the pneumococcus, the staphylococcus or the ordinary streptococcus. I think the author of the paper laid stress on the presence of systemic infection by the staphylococcus albus as being the cause of most of these high temperatures. I suppose we encounter in these cases an inflammatory action, as an infection of the gall ducts, the liver, etc. It is hardly probable that high temperature in these cases can be attributed to one cause. Undoubtedly there are a variety of conditions, some bacterial and others chemical, that produce or cause such unusual and high temperatures.

Dr. Emil Kies:—If we consider that a babe in the uterus contains no bacteria on its outside or inside, and that within a few days after it is born it contains all bacteria that chum with us through our lives, it is surprising that so few of them die. It does not take many hours after the birth of a babe before we can find the colon bacillus. It does not take many hours before we can find the staphylococcus on the skin, and we can find a variety of organisms in the mouth. Whatever is in the mouth of the babe is liable to gain entrance to the respiratory tract. In a great many cases the febrile diseases of the newborn are overlooked because the temperatures are not regularly taken. When we go through maternity hospitals we find, in the majority of the cases, that the temperatures of the mothers are taken most carefully and regularly, but there are very few hospitals I know of in which the temperatures of babies are taken in the same way. If they were taken the morbidity in the newborn would be fully as high as the morbidity in the mothers. In years gone by, practitioners would say they had attended three hundred confinements and had never seen a temperature. When you asked them whether they took the temperature or not they would say no, the woman was all right. The same holds good with regard to babies. They have told us that babies never had temperatures. When we take the babies' temperatures regularly we find that they vary a great deal.

Dr. Cook mentioned something that interested me. He spoke of drying up of the baby, so to speak, and its connection with high temperature. I saw a child, a few days old, which was kept in an incubator, as it was premature. It developed very pronounced jaundice and the temperature reached 108°. I was convinced that the baby was going to die. It was taken out of the incubator and recovered completely. There is such a thing as overheating in an incubator. If we take an adult human being and put him in a hot room and observe the temperature we will find it does not rise very much—perhaps half a degree. But in a newborn child temperature would be regulated automatically. That may have something to do with the drying up. The interesting part of the paper was the portion which showed how easily such things are overlooked. It would be interesting to know what was done to get rid of the infection in that particular baby cot, and whether the cot was infected afterward or not.

Dr. Butler (closing):—I was pleased to hear repeated in the discussion the point that disease in the newborn is frequently overlooked unless the child succumbs, when conjectural causes are often ascribed because of our failure to examine them closely and have routine temperatures taken. As to the rise in temperature in infants in incubators, the overheating of which is not properly guarded against, this is, I presume, an unavoidable result of the latter, the evil effects of which disappear when they are removed, provided the high temperature has not been too prolonged.

In answer to the question as to what was done with the cot in this instance, I would say that while it was disinfected I believe it was the close contact with infected cases that was the chief factor in spreading the contagion. Concerning the subsidence of an existing temperature following abundant nursing by the infant, it would seem that the same might be attributed to the establishment

of free elimination, especially by the kidneys, the function of which is so often suspended during this time, and probably to any antitoxic properties derived from the mother's milk.

Dr. A. P. Heineck read a paper entitled "The Gross Abnormalities of the Appendix Vermiformis, Noted in 3,550 Postmortem Examinations." (See page 339.)

DISCUSSION.

Dr. Byron Robinson:—First and foremost, I wish to congratulate Dr. Heineck on his excellent paper and to express my admiration for his persistent industry. This paper is one among the second attempts only to utilize the Cook County morgue for the detailed study of individual abdominal viscera. Among abdominal organs the appendix stands in the foreground of interest because appendicitis is the most dangerous and treacherous of abdominal diseases—dangerous because it kills and treacherous because its capricious course can not be prognosed. There are three important subjects in Dr. Heineck's paper which will bear study: one is the position of the appendix; the second is peri-appendicular peritoneal adhesions; a third is the reciprocal relation of disease of the appendix and oviduct.

1. The position of the appendix is important as regards its relation to muscular trauma and also whether its perforation occurs in the colonic area, a benign area of peritonitis, an exudative non-dangerous area, or whether its perforation occurs in the enteronic area, an area of absorption, a dangerous area, a non-peritonitic area. The appendix may occupy many positions in the abdomen. It has an extensive, mobile range among abdominal viscera. The numerous deviations of the appendix from the right iliac fossa must not be considered as abnormalities. I shall assume in relation to the psoas five positions for the appendix and present them in the following table of appendicular position and peri-appendicular adhesions. The table is from the personal inspection of abdominal autopsies on six hundred adults:

(1) Pelvic position.—Woman 48 per cent., adhesions 27 per cent.; man, 37 per cent., adhesions 21 per cent. (2) Resting on psoas.—Woman 20 per cent., adhesions 85 per cent.; man 46 per cent., adhesions 83 per cent. (3) Retrocecal.—Woman 35 per cent., adhesions 47 per cent.; man 20 per cent., adhesions 43 per cent. (4) Potential position.—Woman 20 per cent., adhesions 50 per cent.; man 23 per cent., adhesions 62 per cent. (5) Resting to right of psoas.—Woman 28 per cent., adhesions 40 per cent.; man 18 per cent., adhesions 40 per cent.

What is an abnormal position of the appendix? Normally, the appendix may be placed in contact with any abdominal viscera. The appendix is in abnormal position when permanently fixed. When the appendix is fixed by peri-appendicular peritoneal adhesions it is fixed, dislocated, abnormal in position, e. g., there are 8 per cent. of non-descended ceca and appendices in man and 5 per cent. of non-descended ceca and appendices in woman. The cecum became fixed, generally, in the renal region during embryonal life, while on its journey to the right iliac fossa. The non-descent of the cecum and appendix is due to intrauterine peritonitis or destruction of part of the cecal and appendicular blood supply by traction during axial rotation of the tractus intestinalis.

2. Peri-appendicular Peritoneal Adhesions. The second subject of Dr. Heinicke's paper is of great importance. It comprises the subject of peri-appendicular peritoneal adhesions. In 600 adult autopsies I found in males 60 per cent. of peri-appendicular peritoneal adhesions and in the females 48 per cent. Whence come these peri-appendicular peritoneal adhesions and what are their effects? The peri-appendicular peritoneal adhesions originate mainly from trauma of the psoas muscle on some segment of the tractus intestinalis, as appendix, cecum, distal ilium. Trauma of the psoas muscle causes appendicitis by inducing pathologic bacteria or their products to migrate through the appendicular mucosa, the muscularis and the serosa, producing plastic peritoneal exudates or peri-appendicular peritoneal adhesions, which, by organization and progressive contraction, dislocate, fix and flex the appendix and mesoappendix, compromising the appendix and mesoappendix in structure of the mucosa, muscu-

laris, serosa, vessels, nerves; in function, as peristalsis, absorption, secretion, sensation, circulation and nourishment, and caliber, producing non-drainage, obstruction, calculus, stricture. The trauma of the psoas muscle produces perivisceral plastic peritoneal exudates, adjacent to any segment of any visceral tract, according to its bacterial contents, which may lie within its range of traumatic action, viz.: (a) Segments of the tractus intestinalis, i. e., cecum, appendix, distal ilium, duodenum, liver and sigmoid; (b) tractus genitalis, i. e., oviduct; (c) tractus urinarius, i. e., ureter; (d) tractus lymphaticus, i. e., glands adjacent to ureter lying within psoas trauma; (e) tractus vascularis, i. e., veins and arteries. In 600 adult autopsies I found peri-appendicular peritoneal adhesions present in 60 per cent. of the males and in 47 per cent. of the females, with 80 per cent. of peri-sigmoiditis, mainly due to trauma of the psoas. By progressive contraction of peri-appendicular peritoneal adhesions the appendix is compromised in structure, function and caliber, producing flexion, non-drainage. These data accord with two manifestations, viz.: (a) That man is afflicted with more appendicitis than woman; (b) that the main appendicular disease occurs within the trauma of the psoas muscle. The conclusion is inevitable that trauma of the psoas muscle is a vital factor in the etiology of appendicitis.

3. The Reciprocal Relation of Diseases of the Appendix, Oviduct and Ovary. This is a third important matter in regard to the appendix. The recent advocation of intimate reciprocal relations of the appendix and genitals by general surgeons, that appendicitis produces salpingitis and ovaritis or that salpingitis produces appendicitis, I wish to oppose from knowledge gained in practice and observations in autopsies. Diseases of the oviduct, ovary and appendix are separate and distinct as to etiology, except in secondary or rare instances. The anatomic relations of the appendix, ovary and oviduct are intimate in the majority of women, as the appendix projects in the pelvis in 48 per cent. of subjects. This, however, does not alter the etiology of disease in either appendix or genitals, which is inflammatory, bacterial and practically begins in the mucosa of each organ. The etiology of inflammatory processes in both organs occurs from within and is intravisceral and endovisceral, and therefore any pathologic relation between the two organs must be accidental and secondary. The connecting link, anatomically, physiologically, pathologically, between diseases of the oviduct, ovary and appendix is the peritoneum, which may compromise structure and function, through peritoneal exudate, of either set of organs. Heretofore insufficient attention in the etiology of visceral diseases has been devoted to progressive contracting perivisceral peritoneal adhesions. In general disease of the appendix it does not affect any other organ except the peritoneum, by exudates. Through the personal autopsic inspection of the abdominal viscera in some 200 females, 50 children and 475 males, I am convinced that not 2 per cent. of the female subjects presented evidence that the appendix was the primary cause of oviductal and ovarian disease. It may be secondary and indirect and is infrequent in autopsies. Probability is the rule of life, and since, by inspection in 200 female autopsies, I could not find evidence that 2 per cent. of infection of the oviduct or ovary was primary from the appendix, it is evident that infection of the tractus genitalis from the appendix is rare. The peri-appendicular peritoneal adhesions are evidently from its own intra-appendicular, endo-visceral mucosa. They confine themselves to the immediately adjacent appendicular region. The reverse proposition that the tractus genitalis directly produces appendicitis is almost equally negative. Indirectly or secondarily, the peri-oviductal peritoneal adhesions tell the story. Hence since 48 per cent. of female appendices, my own percentage from 155 females, project into the lesser pelvis, the appendix is liable to become surrounded by peritoneal adhesions in 27 per cent. of cases, and consequently appendicitis is indirectly secondarily produced by the progressive contraction of the peri-appendicular peritoneal adhesions, arising from the oviduct, causing compromisation of the appendix by flexions, non-drainage, disturbance of circulation and nourishment. I desire in this connection to direct special attention to the perivisceral peritoneal adhesions and in particular to peri-appendicular peritoneal adhesions, with the end results of flexion, non-drainage, appendicitis.

Peri-visceral peritoneal exudates occurs in 72 per cent. of subjects within

range of traumatic action of the psoas on the right side (appendix, cecum, distal ileum, duodenum, liver), and 80 per cent. of subjects on the left side (sigmoid). In adults 70 per cent. of peri-visceral peritoneal adhesions in the tractus intestinalis, located bilaterally to the genitals, pursue their progressive contractions daily, weekly, monthly, yearly. Is structural and functional damage expected from these persistent contracting peri-visceral peritoneal adhesions? The reader may answer. The reasoning of general surgeons unfamiliar with structure, function and diseases of the genital tract based on a few obscure cases of appendicitis or salpingitis tends to mislead the profession as to the reciprocal pathologic relations of the appendix and oviduct. Primarily, appendicular and oviductal diseases are separate, independent—each arising from its own mucosa. The probability is that if a woman suffers pain in the pelvic region it is of genital origin. Besides the congestions with consequent vigorous uterine peristalsis and pain of menstruation is definite proof of the assertion. Congestions (menstruation) in the pelvic region enhance disturbances and pain in the 70 per cent. of bilateral adult peri-visceral peritoneal adhesions in the tractus intestinalis—closely adjacent to the genitals. Forty-seven per cent. of women and 60 per cent. of men possess peri-appendicular peritoneal adhesions, but it is not perforative appendicitis—the most treacherous and dangerous abdominal disease. The data here furnished from autopsy decides that every time an abdomen is opened and the appendix is found surrounded by peri-appendicular peritoneal adhesions the patient is not always afflicted with perforative appendicitis. The irrational association of intimate reciprocal pathologic relations of appendix and genitals stimulates surgical license. Autopsies demonstrate that primarily (i. e., bacteriologically) the reciprocal pathologic relations of genitals and appendix is practically negative. Secondary reciprocal pathologic relations of appendix and genitals is mainly due to persistent progressive contracting peri-visceral peritoneal adhesions, e. g., peri-appendicular peritoneal adhesions, produced by the adjacent oviduct, may lead to appendicitis and compromising its anatomy, physiology and drainage.

Dr. Victor J. Baccus:—In connection with this most important paper of Dr. Heineck I have a specimen which is worthy of being reported. The specimen is from a case of double dermoid, in which, at the time of the operation, we accidentally discovered the abdominal end of the appendix adherent to the small right dermoid. It was so rare that I wrote to Dr. Kelly with a view to having it mentioned in his book on appendicitis, but it was too late. He wrote me, however, that he had never seen such a specimen.

Regarding the points discussed by Dr. Heineck and Dr. Robinson, we have met with two interesting cases of pathologic conditions created by old adhesions of the appendix. The first case, a pregnant woman, developed appendicitis the first time she had a uterine contraction, when labor had about begun. The case was characterized by uterine pain of a normal character, but in addition there was a severe pain in the region of the appendix. This pain was of an unusual character and more severe than that from normal uterine contractions; though at the time labor was taking place, it was difficult to say whether it was a uterine pain, characteristic of labor, or pain due to a beginning peritonitis. The same evening the temperature was 100°; the pain persisted in the region of the right side, about McBurney's point. We considered the question of causation of this temperature. The woman had been delivered with gloves, with the assistance of nurses; every possible aseptic precaution had been taken. The chances of infection were, therefore, very slight. Pain persisted and finally she vomited. Tenderness increased and there was distention of the abdomen, with elevation of temperature. The next morning we made a diagnosis of peritonitis, secondary to an old chronic right-sided salpingitis or appendicitis. Operation was advised but refused, and the patient died on the fourth day of general peritonitis. The diagnosis was verified at the postmortem examination, which was conducted in the presence of the internes and nurses. We found that the appendix had ruptured into two distinct parts, the distal end of the appendix being adherent to the right horn of the uterus and its costal end adherent to the cecum.

The next case occurred in a woman, 35 years of age, who developed late intestinal obstruction. Operation revealed the fact that the appendix was adherent to the tube and ovary, with a loop of the intestine constricted and passing under it. At the operation the removal of the appendix had the effect of relieving the obstruction and the woman recovered.

Dr. William Fuller:—Of the three conditions or headings, namely, position, size and relation, under which Dr. Heineck's paper deals with the abnormalities or anomalies of the vermiform appendix, I would be very much inclined to give preference in the discussion to that of abnormal position. I would do this because of the vital interest it has for the clinician and surgeon. The interest which attaches to inflammatory conditions in the appendix abnormally placed in the abdomen should impress every surgeon who has dealt with such conditions, and entitles it to the chief place of consideration in this subject. It is known that the vermiform appendix may be found in any place within the abdominal cavity, but the explanation for this is forthcoming if we briefly consider for a moment the factors which act in the production of this anomaly. The main cause, and probably the one which is of more importance than all others combined, is that of arrested fetal development in the ileo-cecal structure, which results in non-descent of the cecum and frequently fixing it at some point much higher than is normal. We are told by embryologists that the process of intestinal rotation which is known to occur in the embryo is sometimes interrupted, and is followed not only by a misplaced cecum and appendix, but an entire absence of the ascending colon. The frequency with which the appendix is abnormally placed is greater than is thought by the average physician, and Dr. Byron Robinson has shown that developmental error alone accounts for about 10 per cent. of the cases, and that it is found a little more than twice as often in the male as in the female. Mention might be made of other causes, such as long mesenteries, adhesions and the growth and development of abdominal and pelvic tumors. The lessons to be learned from the surgery of inflammatory lesions of abnormally placed appendices are valuable and lasting, and the brief account of a single case seems not out of place here.

The patient was a man of 30 years, whose case was recent, presenting every earmark of acute appendicitis, with the exception of the location of the tenderness and rigidity which was in the left upper abdomen, almost over the spleen. Dr. Korssell made a correct diagnosis, with which I could not agree till the operation revealed the cecum to the left of the median line and the appendix attached to the abdominal wall close to the spleen. Such cases as this one are useful and of great importance clinically, enabling the physician to more often and with greater certainty reach a correct differential diagnosis in conditions presenting unusual features.

It seems somewhat strange that in as many cases as Dr. Heineck reports that not a single absence of the appendix was noted. He states that there was not a single absence not attributable to operation or sloughing, which leads us to infer that the congenital absence is a condition almost never seen. Of course, if there has been an operation the absence of the appendix is easily explained; but if there has been no operation it hardly seems just to conclude that the absence of the appendix in every instance is due to sloughing or to other pathologic condition; while it is, no doubt, due to this condition in the large majority of cases, it must be remembered that it may possibly be absent owing to some developmental or congenital defect. Such cases have been reported by Byron Robinson, Zuckerkandl, Bryant and others. The following case, in all probablity, belongs to this category:

A man 28 years old (Dr. C. Cupler's patient), with history of several attacks of appendicitis, was operated last June. Nothing abnormal was noted in the ileo-cecal region except a few adhesions, which were easily disposed of; the cecum and its junction with the ileum, the ascending colon, transverse colon and descending colon were all carefully identified in order to save time and avoid groping in the dark for the appendix. The anterior longitudinal muscular band, as well as the posterior one, was demonstrated by dissecting the cecum and ascending colon from

the posterior abdominal wall almost up to the hepatic flexure and bringing these structures into the incision. Every peritoneal fossa and recess about the ileocecal junction was laid carefully open; every portion of the cecum was rolled carefully between the thumb and fingers, and at two or three places where the cecal wall seemed thicker than normal the peritoneal covering was divided and reflected with the hope, possibly, of finding the organ within the bowel wall, but no structure resembling the appendix was discovered. The condition as found in this case would not justify the assumption that the absence of the appendix, if such it was, could have been due to causes other than congenital. Over one hour was consumed in careful search for the appendix, and in view of the fact that all of the structures above named were perfectly normal in development and in relation to each other it seems right to regard this case as one of congenital absence of the vermiform appendix. The point, however, or rather conclusion, emphasized in Dr. Heineck's paper, that the absence of the appendix is so infrequent to be of practically no clinical importance, is correct.

Dr. James B. Herrick read a paper entitled "Acute Dilatation of the Stomach, with the Report of a Case Complicating Pneumonia and Ending in Recovery."

DISCUSSION.

Dr. C. C. Rogers:—I would like to ask if these cases that had acute dilatation of the stomach had been given large doses of morphin to allay pain previous to the operation or previous to their entering the hospital. In cases of operation upon the gall-bladder for gallstones I have found that, previous to entering the hospital, the patients had been given large doses of morphin to allay pain. The result is that we get, nearly always, lack of peristalsis of the intestines and an acute dilatation of the stomach following operation.

The second case reported by Dr. Herrick is similar to one I recently had in Frances Willard Hospital. The patient, a woman, had pain for thirty-six hours constantly. She had been given large doses of morphin; she came into the hospital with a temperature of 96°, per rectum, with a pulse, instead of being high, of 45. She was operated upon immediately on entering the hospital, chloroform being the anesthetic used. I removed from the gall-bladder 124 gallstones. She stood the operation fairly well, but twelve hours afterward began to vomit a dark vomitus, such as Dr. Herrick has stated. This came up with very slight exertion on her part. The stomach was washed out repeatedly and large quantities of this dark vomitus were removed from the stomach. It was impossible for her to get a bowel movement, and by giving subcutaneous salt solution in large quantities she was kept alive for eighty-two hours.

Dr. Byron Robinson:—This paper has interested me considerably. I began to study the subject of gastroduodenal dilatation, not gastric dilatation, in 1893, and in 1894 I performed my first operation for gastroduodenal dilatation on a woman by means of gastroenterostomy. Twelve years later her physician, Dr. Henry, of Fostoria, Ohio, informed me that she was living and well. She had vomited for some twenty-one months, but did not lose flesh to any great extent. On opening the abdomen by a median incision I found an enormously dilated stomach and by examination of the pylorus found no stricture nor malignant condition, but a widely dilated pyloric ring and an extensively dilated duodenum. I perceived I had made an erroneous diagnosis, but considered gastroenterostomy justifiable in her condition. The operation produced ample gastric drainage and the patient began to recover immediately after the operation. For seven years she wrote me letters regarding her personal health and comfort. In 1895 I performed a postmortem for Drs. Holman and Webster on a woman who had vomited for nearly two years. Dr. Webster thought the death due to pyloric obstruction, but examination at the autopsy demonstrated gastroduodenal dilatation with dilated pyloric rings. During the past dozen years, in the personal autopsic abdominal inspection of some seven hundred subjects, I have observed fully fifty marked cases with gastroduodenal dilatation due to the compression of the superior mesenteric artery, veins and nerves on the transverse duodenum. The most marked case in the living I have witnessed was a patient to whom Dr. Coons, of

Chicago, called me in 1898. A man about 45 had been in bed perhaps five months with hip-joint disease. He had considerable lordosis. The abdomen was enormously distended and he vomited continually. I thought of some form of obstruction in the tractus intestinalis and proposed that abdominal section offered the only faint hope of relief. The patient quickly and cheerfully gave his consent. I made an incision in the middle line and found the abdomen absolutely filled from pelvis to thoracic diaphragm with a white, shiny, distended cyst, which proved to be the cause of the enormously dilated stomach. If the subject had been a woman the cyst would have been immediately taken for an ovarian cyst. Extensive operation on the patient in his weak condition was contraindicated, and finding no intestinal obstruction I closed the abdominal incision. The patient subsequently died and autopsy was allowed. We found that the enormous dilatation of the stomach and duodenum was caused by constriction of the superior mesenteric artery, vein and nerve on the transverse segment of the duodenum. The subject had a considerable degree of splanchnoptosis and lordosis; several months lying on his back in bed made the progress of the gastroduodenal dilatation rapid in its course. There is no doubt in my mind that the cause of the gastroduodenal dilatation is the compression of the superior mesenteric vessels on the duodenum. The generally correct diagnosis is gastroduodenal dilatation, not gastric dilatation. I have noted this matter in autopsies for over a dozen years. Albrecht's views were published in 1898, five years after I had taught and discussed it over and over again and relieved the condition by gastroenterostomy. The causes of acute gastroduodenal dilatation are generally exacerbation of old dilatations or causes of splanchnoptosis. Dr. Herrick announced in one of his cases that there was diastasis of the recti abdominales. That is absolute splanchnoptosis. We can not have a diastasis of the recti abdominales without, sooner or later, gastroduodenal dilatation. I have seen dozens of these cases in the living and dead. I am absolutely opposed to the idea that there is anything idiopathic about this condition. I do not hesitate to say if physicians who announced idiopathic gastric dilatation will perform fifty autopsies the mysteries will clear and the so-called acute stomach dilatation following abdominal section will become the simple gastroduodenal dilatation, due to compression of the transverse duodenum by the superior mesenteric artery, vein and nerve, which I have advocated for a dozen years. I was a little surprised that Dr. Herrick did not mention the views that I reported in 1899 in the *American Medical News*, in 1900 in the *Cincinnati Lancet* and in three consecutive articles published in the *Philadelphia Medical Journal* on this subject, large enough for any one to see, as that journal had 16,000 circulation.

Dr. George W. Hall:—I saw a case in which Dr. Sippy was associated with me. The case was diagnosed as one of acute dilatation, with the lower border of the stomach almost reaching the suprapubic region, accompanied with marked vomiting and with all the symptoms of acute dilatation, and while Dr. Herrick spoke of intoxication in these cases I do not recall that he referred to the occurrence of tetany. In this case tetany occurred; hyperexcitability of the facial nerve, Chrostek's sign, was present, and firm pressure over the nerves of the arm produced Trousseau's sign. Acute nephritis developed. It was thought early in the case that perhaps it was one of pregnancy with vomiting. Upon examination the uterus was found to be smaller than normal. Vomiting persisted for several days; the patient showed extreme emaciation, with slight temperature, with a comparatively slow but almost perfect recovery taking place. The symptoms of tetany were decidely present, but in a moderate degree.

Dr. Herrick (closing):—In answer to the question asked by Drs. Rogers and Salisbury, I will say that no morphin had been given in the two cases I have just reported.

Dr. Robinson has raised the question as to the previous existence of gastroptosis in cases of acute dilatation. This is an important point and one that should receive more careful clinical observation, for, as Dr. Robinson says, an acute dilatation might be brought about by an aggravation of a previously existing gastroptosis, with resulting pull on the superior mesenteric vessels. In my

two cases, however, there is some evidence against the previous existence of gastroptosis. In the one case, while no special attention was directed to the stomach before the onset of the acute dilatation, it was noted, at the first examination, that the stomach apparently lay above the umbilicus, and in the other case I have the word of the surgeon that at the operation the stomach was inspected and found to be of normal size and normally located. I can hardly agree with the statement of Dr. Robinson that the existence of diastasis of the abdominal recti is a proof that splanchnoptosis must have existed. His statement regarding this seems to me to be too sweeping.

Dr. Robinson charges me with having omitted reference to his work along this line. I have made no attempt to review this subject exhaustively, as I stated at the beginning. Quite complete bibliographies are contained in the articles I mentioned by Thomson and by Neck. Dr. Robinson will probably find reference there to what he has done on acute dilatation. I must certainly disclaim any intention of purposely slighting any of Dr. Robinson's work.

In response to my request, Dr. Robinson kindly sent me the articles to which he referred in the discussion—the one in the *Cincinnati Lancet-Clinic*, Dec. 8, 1900, the other in the *Philadelphia Medical Journal*, Nov. 30, 1901. In these articles Dr. Robinson distinctly calls attention to the influence of pressure of the superior mesenteric artery, vein and nerve on the transverse segment of the duodenum in the production of gastroduodenal dilatation, and says that he first observed this in 1893, and had since seen many instances of it. I think I may be pardoned for giving Albrecht the credit for calling attention to the influence of the mesenteric vessels in causing dilatation, as his article was published in 1899, or before Dr. Robinson wrote. Dr. Robinson in his own paper refers to the work of Albrecht. The question is, therefore, one of priority, and the prior publication is Albrecht's, though Dr. Robinson's observations antedate the publication of Albrecht.

But in Robinson's articles, unless I misread them, there is no reference whatever to acute dilatation of the stomach, which is the subject under discussion; all the cases he describes are cases of chronic obstruction. This will, I trust, explain why I did not run across references to the work of Dr. Robinson and why I spoke of Albrecht as the one who first called attention to these possible etiologic factors.

Dr. C. E. Bentley read a paper, by invitation, entitled "Contact Points of Dental and Medical Professions."

SOME POINTS OF CONTACT OF THE MEDICAL AND DENTAL PROFESSIONS.

CHARLES E. BENTLEY, D.D.S.

CHICAGO.

There is an ancient fable that the gods in the beginning divided man into men, that he might be more helpful to himself, just as the hand is divided into fingers, the better to realize its purposes. "This old fable," says Emerson, "covers a doctrine ever new and sublime, that there is one man present to all particular men only partially or through one faculty, and that one must take the whole society to find the whole man." Man is not a farmer, nor a professor, nor an engineer, but he is all. Man is priest, and scholar, and statesman, and producer, and soldier. In the divided or social state these functions are parceled out to individuals, each of whom aims to do his stint of the joint work while each other performs his. The fable implies that the individual must sometimes return from his own labor to embrace all the other laborers.

In other words, great Nature, far back in the lapse of time, pointed out the value of specialism. The labors of society are so vast and important that they must be parceled out to specially trained workers, so that, by concentration of effort at each point, progress may be made toward a perfected social structure. So Nature teaches, and at no period of conscious existence have the sons of Nature so thoroughly put this particular lesson into practice as in the later nineteenth and twentieth century days. All the arts and sciences are divided

into specialties. In the commercial world, in the world of education, in professional life, the highest results are obtained by special workers, detailed to special work, the combination of individual results making a perfect entity.

In no center of activity does the spirit of specialism obtain greater than in the field of medicine. The men who to-day are making the greatest impress upon their profession and who are contributing most of value to its literature are those who have caught this great lesson of life and are using their short span of days to perfect their knowledge of and usefulness for one special thing. This does not imply that individual knowledge is growing more restricted or that specialism indicates limitation. Remember that in our wise fable the individual must sometimes return from his own labor to embrace all other labors. No specialist who has not a good working knowledge of the entire field and breadth of training can make for clearer vision and insight along the narrower chosen line.

In compliance with this world spirit the whole human body is now divided among special students. Thus has oral surgery as a specialty sprung into existence. Not that the surgery of the mouth has not been contemporaneous with general surgery since it began, but that those whose special line of work confines them to the mouth have so developed the surgery of this region that its needs and the accumulated experience of those who are its devotees have made a distinct place for it in the realm of surgery, just as gynecology or surgery of the eye or nose is now distinct from general surgery.

But specialists in any given field, from the very nature of things, necessarily cross and recross each other, thus making points of contact of greater or less importance. A prominent example of this inter-relation of activities is shown in the surgery of the mouth, for, although oral surgery has become a separate branch from general surgery, the points where the oral and the general surgeon have a common interest are very many. Some of these points of contact I shall endeavor to indicate this evening.

In the development of this specialty two causes have contributed much to its present-day status: First, the demands made upon the dentist by those who seek his services have stimulated him to include this class of work in his special field of labor; second, the recognition by the medical profession of the work done by the dentist, and, in some instances, the establishment of a chair of oral surgery in medical schools, such chairs being filled by dentists. This latter cause has been a stimulus to a broader and a deeper knowledge on the part of dentists in this particular department of surgery, and as a result fresh contributions to the literature, comprehensive textbooks and a wealth of information have come from dentists working in this line. Several have raised their names from the common level and have made a reputation of national importance. Garretson, Brophy, Gilmer, Fillebrown and Cryer are a few of the men who have won distinction in this line by reason of their creations. The surgery that is being done in the mouth to-day is along the line of principles laid down by these men.

The instrumentation involved in such surgery has been completely revised by reason of this new stimulus. The bungling operations that characterized the work but a few years ago have given way to those easier of execution and surer of results. One of the inexorable laws that is responsible for the advancement of this specialty is that all operations upon the jaws, save the operations upon the tongue, are to be performed within the mouth. This is practiced for two reasons: First, there is relatively little danger of sepsis in wounds of the mouth, because the fluids that bathe the oral cavity are capable of taking care of the specific germs which produce that condition; second, the unsightly scars that are produced by opening into the mouth from without are unnecessary, as ample room is provided within the mouth for the operations and the scar is averted. The importance of any method that avoids scars and conserves the esthetics can readily be seen. To the writer's mind these two things have done more for the advancement of oral surgery than any similar number of considerations that may be mentioned.

The question might be asked: What are the exact contact points of the medical and dental professions? What subjects should be included in such a chair? The answer might be:

First—Associative lesions of first dentition. What physician is there present who has not been baffled by some of the many lesions that are incident to the dentition of the little folks? This heading should include, with the time of eruption of the temporary set, a study of localized stomatitis, irritative fever, diarrhea, spasms and, possibly, eruptions of the skin. When one considers the delicate and susceptible organism of the infant he is well prepared to understand that in the influence of the process of dentition must necessarily exist a powerful predisposing cause inviting the attack and, indeed, opening the portals, as it were, to enemies that otherwise might pass harmlessly by. The process of dentition, while a physiologic one, is yet like that of uterogestation, one of continuous physiologic stimulation, which may have but a shadowy line to the pathologic. Irritation, then, is a matter of consideration in all these associative lesions. If we can control this irritation we can abort the results. It is not, however, to be assumed that all infantile diseases are influenced by or, indeed, even remotely associated with dentition. Mistakes of this nature are quite frequently made, but we desire to emphasize the point that it should always have its full share of consideration in the diagnosis. To understand dental irritation one must be familiar with dental evolution. This, of course, means its physiology. We know the varying periods of eruption and we are at once led very directly in our researches. We should be familiar with the diseases that accelerate or retard this process. These, together with the subjective symptoms, should intelligently guide us in the treatment. Under this heading may be mentioned congenital hypertrophy of the tongue in children, tongue tie, bifid tongue and bifid uvula.

Second—Anomalies of second dentition and the surgical relations, especial attention being paid to those degenerative processes that have remote manifestations, such as pulp nodules, etc., which give rise to persistent neuralgic pains of the fifth nerve and its branches. There are many anomalies that might be classed under this heading, but three will suffice for this purpose: 1. Tooth germs, developing in positions where their product must remain encysted. 2. Teeth whose roots perforate the antrum. 3. Impacted wisdom teeth. These encysted teeth are often the source of much trouble, and not infrequently result in osseous tumors that demand surgical interference. The buccal roots of the first and second superior molars often penetrate the antrum, and if the pulp, or, as it is commonly called, the nerve, becomes devitalized in such teeth it affords a channel for direct infection. This condition has only to be referred to in this presence to understand its gravity.

Third—Alveolar abscesses and their sequelæ, a study of the causes and consequences of burrowing pus from such, together with the conservation of such teeth, for it is no longer held that a tooth should be consigned to the forceps because it is abscessed. The study of an alveolar abscess becomes interesting to the physician when its consequences involve remote tissue. The formation and confinement of pus in a cavity so obstinately inclosed as the alveolus of a tooth must necessarily inflict the severest suffering. The burrowing of this pus, following the direction of the least resistance, often finds its exit in peculiarly remote places; thus the points just below the malar process, beneath the chin, the anterior nares and as low down as the clavicle and mammæ are not infrequent exits for the pus. On account of these remote points of exit the source is often clouded in obscurity, and a reference to alveolar abscesses and their sequelæ is important to the physician.

Fourth—Fractures of the inferior and superior maxillæ. A study of the various splints and newer methods of reduction and the possibilities of restoration, cases where a large amount of tissue is lost, as in gunshot wounds. The great advance in the method of reduction of fractures of these parts is worthy of the physician's study, particularly as regards multiple fractures of the superior maxilla. The introduction of the skull cap for the support of splints for fractures of the bones of the face and mouth marks a great advance in the treatment of this class of fractures.

Fifth—The various forms of necrosis of the maxillæ, such as dental necrosis, alveolar necrosis, necrosis from lack of room for wisdom teeth, syphilitic necrosis,

mercurial necrosis, exanthematous necrosis, phosphorus necrosis and necrosis from injuries are of interest to physicians and dentists alike. Syphilitic, mercurial and exanthematous necrosis is more generally seen by the physician, although the oral surgeon is occasionally consulted. The systematic treatment lies wholly within the domain of the physician, while the surgical procedure may be done by either oral or general surgeon.

Phosphorus necrosis is rapidly disappearing, for two reasons: 1, all workmen are now required to have carious teeth filled before employment will be given in match factories; 2, amorphous phosphorus is now used in the making of matches, which reduces the chance of such poisoning to the minimum.

Sixth—Ankylosis of the maxillary articulation. This heading should include a study of acute synovitis and arthritis. A simple synovitis may become a panarthritis, ending in a permanent ankylosis, necessitating excision of the neck of the condyle, which has only to be referred to here to indicate where the lines of the two professions co-mingle.

Seventh—Possibly the points of contact of the two professions are oftenest touched in the treatment of diseases of the maxillary sinus, for the reason, doubtless, that the teeth are often the cause of lesions in this cavity. Abscesses of the antrum, empyema of the antrum, mucus engorgement of the antrum, polyps, cysts and morbid growths of the antrum often engage the attention of both physician and dentist.

Eighth—Trigeminal neuralgia. This prolific heading is interesting in the study of the many causes that may produce this condition. Dental exostosis, impacted teeth, syphilis, carious teeth, menstrual irregularities, pulp nodules, diseases of the Gasserian ganglion or its branches, together with their surgical treatment, are of interest to the physician, and manifestations of these the dentist often sees.

Ninth—Dislocation of the inferior maxilla, its causes and treatment, is another point of contact for which a patient is apt to seek relief from a physician or dentist.

Tenth—Congenital fissures of the lips and hard palate have received a greater contribution with regard to the technique of modern operations from the dental than the medical profession. I would fain avoid making any invidious comparison, but am desirous of "rendering unto Cæsar those things which are Cæsar's." A certain member of the dental profession has done more than 1,100 staphylorrhaphies, and is largely responsible for the technique that is much employed by surgeons the world over in this operation.

Eleventh—The care of the mouths of women during pregnancy, a knowledge that should form a part of every physician's equipment, so often neglected. Chemical analysis of the oral fluids of women during this period, together with prophylactic treatment of the mouth, is a necessity that every physician should recognize. The preservation of the teeth during this period is made possible by a recognition of certain modern methods that are in vogue to-day, and physicians should be taught them in the medical schools.

Twelfth—Ranula. A study of the delicate operation for the relief of an impacted body within the salivary ducts.

Thirteenth—Oral manifestations of syphilis. A study of mucous patches and the so-called Hutchinson's test teeth, differentiating them from the honey-comb teeth.

Fourteenth—A complete study of the benign and malignant growths that are found in the mouth, with their operation.

Fifteenth — The constitutional effect upon persons suffering from pyorrhea alveolaris, whose gums are constantly bathed in pus, which finds its way into the alimentary tract. The importance of a healthy mouth and its bearing upon a healthy body cannot be too strongly emphasized. Carious teeth become the habitat of myriads of germs hidden away in sequestered sewers, where they multiply with comparatively little interference. Almost any species of microorganism can be found in the mouth; in fact, it is the focal point of initial infection. Add to this carious teeth and a filthy environment and it is not difficult

to see the importance of guarding this portal of infection with such care as modern dentistry and preventive medicine demand.

These are some of the most important points of contact of the two professions. Are not these points of contact of sufficient importance to draw the two professions in closer relationship to the end that their efficiency may be increased and their service to humanity greatly augmented?

DISCUSSION.

Dr. Thomas L. Gilmer:—I think you will agree with me that the paper presented by the essayist is a most excellent presentation of the subject, and that it has been well given. When I received a program of this meeting I thought an error had been made in placing upon it only oral specialists to speak on this subject. So it seems to me yet, and owing to this fact and the lateness of the hour I will only touch on a few points which the author of the paper simply hinted at and then waive my prerogative in favor of some of the general practitioners who, I hope, will discuss this most interesting subject.

The dentist, well-informed in general and special pathology, as careful as he should be in his examinations of the oral cavity, will not only examine the teeth to discover if there are cavities which need filling, but he will make a careful examination of the whole buccal cavity, since that is his field, and he is largely responsible to his patients for that field. By making this careful examination he will often discover innocent conditions of which the patient is not cognizant, and which, if allowed to progress or continue, would become baneful. For instance, leukoplakia buccalis is a condition which is generally considered to be the forerunner of carcinoma. If taken in time and subjected to treatment of the *x*-ray, a more serious condition, which is most certain to follow, may be prevented. Again, slight abrasions of the buccal mucous membrane may often be found, caused by the attenuated edges of a sharp tooth which at first are innocent and may not be observed for weeks or months by the patient, and perhaps not observed until it is too late, or until there is a carcinomatous condition, which exposes the patient's life to great danger. The mouth is often a good index of the manifestation of disease in remote parts. There are oral manifestations which indicate renal disturbances. For instance, in pregnant woman we may occasionally find in her mouth in some cases a swollen and tumefied condition of the gingivæ margins of the gums which bleeds at the slightest touch. In such cases if the patient's urine is examined albumin will frequently be found. There is another condition which occurs in diabetic patients which is almost pathognomonic of diabetes. For instance, we find an atrophied condition of the gingivæ, forming pockets in the interproximal spaces. These pockets are filled with débris, which is of a pasty grayish color, resembling the material found in syphilitic ulcers in the mouth. Accompanying this is a peculiar significant odor. These are only a few of the conditions in the mouth which are oral manifestations of diseases in remote parts.

Dr. Truman W. Brophy:—With the advent of a knowledge of bacteria the whole field of dentistry, oral surgery and oral hygiene has been forced upon the attention of the medical profession. It brought to the attention of men and women engaged in the treatment of human ills the greater importance of a knowledge and a means of treatment of abnormal conditions of the oral cavity. It brought to them a desire to do more in the way of preventive medicine, so far as it was possible to do so, in the prevention and arrest of the ferments which take place in the oral cavity and which become a means of sepsis to the entire organism. It is not my desire to say anything bearing upon what has been stated in the paper, and so well stated by Dr. Bentley, nor to review what has been said by my colleague, Dr. Gilmer, but I wish to say a few words regarding the importance of considering and practicing and putting into use in the various families that are treated by the members of the medical profession here represented the teaching of hygiene of the oral cavity. The mouth is the greatest of all centers of infection. It is the passageway of septic materials into the alimentary tract, and from this tract the entire system becomes oftentimes impregnated with the

poisons. Oral hygiene is the highest expression of general prophylaxis. If we take into consideration the condition of the ordinary mouth as it is found, we find there a quantity of septic material, as a rule, because the teeth, more than any other organs of the body, are subject to disease. The teeth break down and nature does nothing to restore them to health, which is quite contrary to her efforts in regard to other parts. They cannot be brought back to usefulness except by the skill of the dentist. They break down; this broken-down material is often passed into the stomach; frequently abscesses with great quantities of pus form about the roots of the teeth, which may become a source of direct sepsis by means of direct absorption, or may float into the oral cavity, pass through the alimentary tract, and thus convey poisons throughout the entire system. If I were able to do anything to improve the general condition of the human family I could not do more than to place the mouths of the people in a healthy condition and teach them to keep them that way. That difficulty lies in a lack of knowledge on the part of parents who fail to teach their children that it is essential to clean their mouths. They will wash their faces, they will give them baths, but they will permit their mouths to go unclean. This condition is largely observed among the more common people as we see them, so that we cannot do too much in advocating oral hygiene, because it is the most important part of hygiene. Furthermore, the absence of it promotes dental destruction, and dental destruction persists until the teeth are lost, and then, when lost, they can never be reproduced, nor is it possible for the skill of the dentist to construct artificial teeth that can even approach them.

As to the question of pain, the dentist is constantly in touch with pain. The physician oftentimes overlooks the source or sources of pain as manifested in and about the mouth. In the field of work in which I am engaged in the capacity of an oral surgeon, and in the capacity of a dentist, I am able to see, as has been pointed out by the author of the paper and the first speaker, that there is a field which formerly was not cultivated. I find that for want of a knowledge of dental pathology and of the various changes which take place in and about the mouth the physician, in the management of his neuralgic patients, often overlooks important factors in the establishment of these neuralgias, or in the bringing of them about. His patient is treated in accordance with what the text books prescribe, and what the professors teach, without a knowledge of the true cause of the disturbance. The dentist, formerly, for want of knowledge of general pathology, groped in the dark and committed the same error in attempting to treat a local condition which might have had its origin from some general disturbance. The most important steps taken in the way of education in the medical schools of our country, and now being carried on to a considerable extent in the cities abroad, have been to have some one qualified to teach medical students some of the special branches of pathology that they do not usually get in the regular course of medical instruction. If recent graduates from a medical college were asked to make a differential diagnosis between sensitive dentine, pulpitis, pericementitis, and incipient dental alveolar abscess, ninety-five in a hundred would not be able to answer these questions, simply because they have not had the training. It is not the fault of the young men. The faculty of the institution does not give them the opportunity to learn those essential features of pathology which have so much to do with bringing about abnormal conditions, particularly of the fifth pair of nerves, so they are not able to trace the disease to its origin. Consequently they administer the usual remedies, narcotics, etc., to control pain, which they do temporarily, after which the pain recurs. For instance in hypertrophy of the third division of the fifth nerve, so commonly found at the mental foramen, due to some dental irritation, perhaps to a bad fitting plate, how frequently do practitioners fail to treat the neuralgia because they do not recognize the true seat of the primary lesion. They fail because they have not considered this feature of disease; it has not been pointed out to them, and they do not succeed in addressing their remedies to the direct origin of the trouble. I recognize the fact that the dental practitioner fails oftentimes to

accomplish his best work with his patients for want of the general knowledge that is imparted by a school of medicine.

Dr. Victor J. Baccus:—I was glad to hear Dr. Brophy emphasize the importance of recognizing lesions of the mouth as a primary source of infection. Mayo Robson, in speaking of the etiology of gastric ulcer, states emphatically that in his examinations of patients with gastric ulcer, mostly of the poorer class, he found them suffering from some form of mouth sepsis, and he thinks that gastric ulcer, in many instances, is secondary to mouth infection.

Dr. Charles S. Bacon:—I would like to take this opportunity to say that this is one of the most important subjects we have had before us this year, and that the presentation of it on the part of the essayist and the gentlemen who have taken part in the discussion has been very satisfactory. I believe that one of the points alluded to by the essayist, viz.: the relation of the dentist to the state of pregnancy, is a condition that should in every instance be emphasized by every physician who has charge of a pregnant woman. I make it a practice myself to inquire of every patient when she comes to me what is the condition of the mouth, and to send her at once, if there is any possibility of trouble with her teeth or mouth, to a dentist. Not only do I do this, but give this instruction to students in college. I believe this practice is of great importance, not only for the period of pregnancy and the puerperium, but for the whole future life of the patient. Every physician in every specialty and in general practice has, I believe, more points of contact with the dental specialty than with any other. Not a very large proportion of patients, especially in the earlier years of life, have to do with the oculist. Fewer still have to do with the otologist, and not a great number have to go to the gynecologist, but every one has to do with the stomatologist, and it is of the utmost importance that this contact be recognized, and I am very glad the paper has been read.

Dr. Bentley (closing):—I have not anything to say other than to thank the Chicago Medical Society for the kind manner in which the members have received my paper.

A regular meeting was held Feb. 14, 1906, with the President, Dr. Charles S. Bacon, in the chair. In a symposium on "Nostrums," papers were read as follows: "Some General Considerations," by Dr. Geo. H. Simmons; "The Subordination of Medical Journals to Proprietary Interests," by Dr. J. H. Salisbury; "Influence of Nostrum Literature on the Medical Profession," by Dr. N. S. Davis; "The Nostrum from the Viewpoint of the Pharmacist," by Prof. W. A. Puckner; "The Problem of the Synthetic Chemical Compound," by Prof. Julius Stieglitz; "The Responsibility of the Medical Teacher for Existing Conditions," by Dr. Charles S. Williamson; "The Council on Pharmacy and Chemistry," by Dr. J. H. Long.

SOME GENERAL CONDITIONS.

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(*Abstract.*)

Proprietary medicines are those which are controlled by a copyright or trade name, or by a patent. Those controlled by name only are usually mixtures, secret or semi-secret in character. There is no objection to proprietary medicines *per se*. The commercializing of the literature relating to our materia medica, however, is against a true scientific spirit and is demoralizing both to pharmacy and to medicine. Any preparation about which there is mystery regarding its composition must be classed with nostrums. Whatever is secret or mysterious is suspicious. This is a truism that does not need to be demonstrated. Secrecy and mystery are the bulwarks of quacks and humbugs, and behind secrecy and

mystery the "patent medicine" sharpers hide while they swindle the public; and with them the exploiters of "ethical proprietaries" delude and humbug unthinking physicians. Remove the secrecy and mystery connected with these preparations, not only as regards their composition, but also (and this is important) as regards those who make them, and physicians who now prescribe some of these preparations would be ashamed to acknowledge that they had ever been so foolish.

Proprietary medicines may be divided into two classes: Those advertised to the medical profession and those advertised to the public. The latter are called "patent medicines." This is an arbitrary, absurd and meaningless term, but one we evidently must continue to use. The former—those advertised to physicians—are usually called "proprietaries." But there is no difference between "patent medicines" and many of the so-called "proprietaries." The imaginary difference is that one is advertised direct to the public and the other direct to physicians, both being practically of the same character. Some, such as Duffy's Malt Whiskey, Scott's Emulsion, Fig Syrup, Antikamnia, Kutnow's Powder, Vin Mariana, Santal Midy, Apioline, Hydrozone, etc., straddle the fence and appeal both to the public and to the profession.

The following should be demanded of proprietary medicines: 1. There should be no secrecy or mystery connected with their composition. 2. There should be no secrecy or mystery regarding the firm which makes them or the place where they are made. 3. The manufacturers or agents should not publish anything concerning the therapeutic value which is untrue or which would tend to mislead. 4. They should not be advertised, directly or indirectly, to the public.

I. A physician not only has a right to know what he is giving his patient, but, also, he has no moral right to prescribe a preparation of which he does not know the exact composition. It is claimed that if the owner of a proprietary medicine should divulge the exact ingredients and the amounts of each, others would make it. In reply, there is hardly a nostrum on the market whose composition cannot be, and usually is, detected by the bright fellows connected with the regular manufacturing pharmaceutical houses, who, if they desire to do so, can put up practically the same product.

A common argument offered by promoters of proprietaries is that they have spent time and money in developing their products and hence cannot afford to give up their secrets. In reply, the only expense attached to the development of 99 out of every 100 of these preparations is that which has gone into bottles, labels, advertising literature, and in wages paid to smooth-tongued detail men to visit and delude the doctors. In this way they have undoubtedly spent money —lots of it—and successfully. But aside from this, all the talk about the time and money invested in developing these preparations is the veriest bosh. The capital required to start Antikamnia, a combination alleged to have been suggested by a physician, and which has netted a fortune to its owners, was simply that which was necessary for advertising. The ingredients were cheap and no skill was required to mix them. Ammonol, we are told, was the result of the suggestion of a physician that carbonate of ammonia should be used in place of caffein; and Phenalgin, it is alleged, is simply the result of another "company" branching off from the Ammonol company, with practically the same mixture under another name. The amount of time and money required to work out the acetanilid mixture—Sal Codeia-Bell—I leave to your imagination. How much knowledge, time and money do you suppose were necessary to originate Tongaline, Neurilla, Pasavena, Anasarcin, Manola, Sanmette, Echthol, Neurosine, Benso Capsules, and thousands—I am not exaggerating when I say thousands—of analogous preparations? Are these anything more than ordinary simple mixtures of well-known drugs? Do they require more than ordinary pharmaceutical skill to compound them? Are they any better combination of drugs than the average physician is prescribing every day?

II. Next to knowing what is in the combination we are using is knowing who makes it, whether the manufacturer is competent, reliable and has the necessary equipment. Ordinarily, when we buy an article of commerce, regarding the qual-

ity of which we have no confidence in our own judgment, we select a responsible, established firm, one which has a reputation, and we take this firm as a guarantee that the article will be up to the standard and one on which we may rely. Should we not do the same when we select medicines to prescribe for our patients? And yet one of the most noticeable facts connected with the proprietary business is that the vast majority of these preparations are supplied us by firms about which we know little or nothing. They are not, in the true sense, manufacturing chemists, if by this we mean that they are in the regular business of manufacturing pharmaceutical preparations. Such firms have their catalogues or price-lists, which include preparations—official or non-secret—called for in the regular course of such business. While some of these regular pharmaceutical companies put out preparations of more or less doubtful or fradulent character, this is a side issue with them. The nostrum output of all the regular manufacturing pharmaceutical houses is trifling compared with the vast number that are foisted on our profession by companies that are in no sense legitimate manufacturing pharmacists. These "pseudo" companies are usually made up of men who have no interest in or knowledge of either medicine or pharmacy. They are really promoters. Once in a while the "company" will be found to consist of a doctor or a druggist, who sees in this "specialty business" easy money. Ex-advertising agents, real estate agents, lawyers, etc., often comprise the personnel of these "pseudo" companies. Some of our "ethical" proprietaries are supplied us by the same men who, under other names, are supplying the public with patent medicines. Certain homeopathic pharmacists are running "pseudo" companies as a side line and exploiting nostrums to the regular profession. The great bulk of the nostrums are put out by companies that are neither chemical nor pharmacal, and these "pseudo" concerns bear the same relation to legitimate pharmacy as the ignorant quack doctor bears to an educated, honorable physician. And one is as great a curse to pharmacy and chemistry as the other is to medicine.

III. Of course, every secret proprietary vender will agree with this principle: that is, that there should be no untruthful statement made regarding the therapeutic value of a product. And yet, what a reflection on the honesty of the manufacturer and on the credulity of the physician is the mass of "literature" furnished by the majority of manufacturers of so-called "ethical proprietaries."

IV. No comment is needed on this proposition, for if physicians did not protest every proprietary vender would appeal direct to the public and to the physicians at the same time.

THE SUBORDINATION OF MEDICAL JOURNALS TO PROPRIETARY INTERESTS.

J. H. Salisbury, A.M., M.D.

CHICAGO.

(Abstract.)

It is difficult to overestimate the influence of medical journalism on the opinions and actions of the medical profession. The medical journal, like the newspaper, is an ever-present friend whose influence and advice are potent for good or evil. Whoever gains control of the medical press goes a long way toward securing a paramount influence on the entire medical profession. The control of the medical press by the proprietary medicine interests is, therefore, a matter of vital interest to every physician, and it is worth while to inquire how great and of what character this influence is.

Most medical journals are supported by advertising. This is an important fact to be reckoned with in considering the reason for the subserviency of the medical press and in suggesting a remedy for the nostrum evil. No paper supported by advertising can pursue a policy antagonistic to the interests of its

advertisers and retain their patronage. No paper dependent on advertising can escape the influence of its advertisers. A journal which accepts the advertisements of proprietary preparations will observe a certain discretion in its advocacy of pharmaceutic reform, confining its denunciations to glittering generalities, firing blank cartridges, or at least directing its aim so as to be sure not to injure its friends.

That the majority of American medical journals can not be unfavorable to proprietary medicines is evident from an inspection of their advertising columns. Practically all medical journals carry advertisements of proprietary remedies. In one journal which is supposed to exhibit the highest ideal in the ethical conduct of medical journalism, 20 out of the 36 advertising pages were devoted to advertisements of proprietary articles; in another of high grade 9 out of 26 pages were used in the same way.

The extent of the subserviency of medical journals to the proprietary interests is further shown by the fact that a large proportion of medical journals have a department devoted to advertisements under the guise of reading notices, commercial news, therapeutic notes, etc. No pretense is made that these are genuine scientific articles, and it is tacitly understood that these columns are under control of the advertisers and that the articles are disguised advertisements. We note that financial necessity has compelled the paper to descend to the utterance of a commercial fiction, if we may not call it by a harsher name, and to become a silent partner to what frequently amounts to a scientific and commercial fraud.

In the next step, taken by a considerable number of journals, the editor and his contributors exhibit themselves as the willing slave of their proprietary master, having been bought and paid for. The write-up and the apologetic editorial exhibit the lowest stage of journalistic depravity. The journals subsidized by the proprietary interests comprise one-half of those published in the United States.

I went through 27 medical journals, covering the past six years, and found one preparation, viz., "peptomangan," as the subject of forty-five original articles. In addition there were six editorial indorsements of the remedy. One editor went so far as to take up arms in defense of his patron against the aspersions of a rival firm which were likely to injure the business. In a somewhat cursory survey covering about 15 medical journals for the last five years, I have found about 300 so-called original articles written in praise of the various proprietary remedies, and the list is by no means complete. I think that the evidence is sufficient to show that the medical press of the country is profoundly under the influence of the proprietary interests.

It may be objected that it is only the second-class journals which publish such articles. This is not entirely true, for such articles have been repeatedly found in the columns of some of the best periodicals in the country. Some openly uphold it; others silently consent; while a few, but an increasing number, positively condemn it. It must be remembered that the so-called second-class journals have, individually, a considerable and, collectively, an enormous circulation.

What is the character of the influence exerted on medical journalism by these nostrum venders? The scientific and practical value of the literature is markedly lessened. Clinical reports presented in behalf of some preparations make the claim and have the appearance of giving the results of careful clinical and experimental work. The sincerity of the authors of some of these articles we are not disposed to deny, but the scientific value of their work is much impaired by its one-sided character and the lack of comparison and critical judgment.

The result of inserting one-sided articles is to encumber the reading pages of the journal with worthless stuff and to create an uncritical habit of mind in the reader. Finding his time wasted in the careful reading of such articles, it

is very natural for him to give little attention to the really valuable matter which may be interspersed between proprietary articles.

The journal which is ready to sell its columns to the nostrum vender can not be relied on to give the best editorial advice or to take a firm stand on the right side where the interests of the public or of its subscribers are opposed to the interests of the proprietary manufacturers. The editor of such a publication can not be a worthy leader of medical thought. He may expect to find his paper quoted to support sentiments that he never uttered. The journals by giving their space to extravagant statements regarding the effects of such remedies are fostering blind reliance on drugs and delaying the advance of truly rational therapeutics.

What remedy can be proposed for this state of things? Some regulation should be adopted as to the form of advertisements and the character of the remedies which should be admitted to the advertising columns. The editor who fails to protect his readers against concealed frauds, which is the only proper characterization for many of these "write-ups," is false to the trust reposed in him by the medical public.

The official organs of our state and national societies form a class of journals that could easily be made independent of such advertising. By extending to these papers our support we may enable them to raise American medical journalism to the level which it ought to occupy. The purified medical press may be the means of educating the mass of our profession so that physicians may no longer be robbed themselves nor become the agents of nostrum manufacturers in foisting on an innocent public preparations that are in many cases no better than the most fraudulent "patent medicines."

EFFECT OF NOSTRUM LITERATURE ON MEDICAL MEN.

N. S. Davis, M.D.

CHICAGO.

(*Abstract.*)

The greater part of the literature issued by manufacturers of proprietary medicines is more or less clever advertising of their wares. A small part is of scientific value. As a monopoly brings wealth, each house endeavors to put out a specialty of its own. While the best houses employ scientific men to test their products, the reports are often so summarized that disagreeable or injurious effects of preparations are lost sight of or minimized. Furthermore, the observations are not made with scientific accuracy or freedom from prejudice.

Much nostrum literature consists of impressions of various physicians as to the effects of different mixtures. The nature of the remedy is hidden. It is impossible to adapt dosage, if one dose is given to all. Ready-made prescriptions lead to slovenly reasoning and practice. Preparations are prescribed in ignorance of their composition. It is our own fault that manufacturing chemists and nostrum venders are so successful. Skillful advertising is responsible for the enormous sale of these preparations.

If we never tried a new drug there would be no advance in therapeutics. But manufacturers do not give us all the facts or sufficient proof of these facts. Preparations are exploited by advertising and by drummers with carefully rehearsed speeches. So-called original articles, lauding these mixtures, appear in some journals.

Therapeutic teaching should be confined to the drugs of the Pharmacopeia, which should contain all drugs of real worth and none other. Pharmacologic and therapeutic research should be stimulated, so that able men would devote their time to investigation along these lines.

THE NOSTRUM FROM THE VIEWPOINT OF THE PHARMACIST.

W. A. PUCKNER, PH.D.
CHICAGO.

(*Abstract.*)

The insufficient instruction in materia medica, pharmacology, pharmacy and chemistry offered by schools of medicine is the direct cause of present conditions. This lack of proper training has made the physician dependent on ready-made remedies, proprietaries and nostrums, and has been the making of "patent medicines," has led to self-medication and to counter prescribing, and has been the cause of making pharmacists forget their professional standing.

The instruction in these subjects has been inadequate because of the limited time allotted to them and because the student is led to attach too little importance to them; also because of the instructor's lack of familiarity with the subject which he is supposed to teach.

Two consequences are probable: 1, If the patient discovers the physician's incompetency, when again in need of treatment he will go to his pharmacist for advice; 2, when the physician comes to realize his lack of familiarity with medicines then he will fall back on the proprietary remedies, ready-made, with the dose on the label, of pleasant odor and taste and said to possess marvelous virtues.

Were physicians competent to judge the effect of the remedies which they administer the dependence on proprietaries would not be so bad, since many possess some merit. Unfortunately, the physician's training is likely to be such that he can not distinguish the rank fraud from the efficacious remedy. The following will illustrate how a physician often is led to use absolutely worthless remedies: Some years ago a preparation was placed on the market under the name of "Flora China," which was claimed to be "pure quinin sulphate," but to be tasteless and to do all that the bitter quinin would do. In appearance the substance resembled quinin sulphate and it certainly was tasteless, but on examination.[1] I found it to be nothing but crystallized calcium sulphate. Yet some five years later a student told me that a certain physician prescribed it and had used no other kind of quinin for years.

The use of proprietaries by the physician must cause a lack of confidence on the part of the patient, or induce self-medication, or cause counter prescribing by the druggist and the making of "patent medicines."

Whenever a physician prescribes any of these remedies with nice, smooth, catchy names, patients will, sooner or later, learn what they are taking. If the remedy has the desired effect the patient will purchase his medicine direct and dispense with the physician's services. Furthermore, he will recommend it to his friends, using the physician's name as a guarantee of its virtues. Next its advertisements will be transferred from the medical journals to the daily press and the physician will have officiated at the birth of another so-called "patent medicine."

A practice still more reprehensible, it seems to me, is that of supplying patients with "physicians' samples." Seeing that his physician tries on him remedies about which he plainly knows nothing, the patient will prefer to consult the "patent-medicine" literature of the daily paper or will study the placards on fence posts and in street cars to find some remedy fitted to cure him, since to him it must seem that his physicians pursued a like plan.

THE PROBLEM OF THE SYNTHETIC CHEMICAL COMPOUND.

JULIUS STIEGLITZ, PH.D.
CHICAGO.

(*Abstract.*)

Interest has centered naturally in two classes of manufacturers; those who appeal directly to the ignorance or the vices of the public to buy their patent medicines and nostrums, and those manufacturers who, under the ethical mantle

1. Abstract Prac. Amer. Pharm. Association, vol. xlv, p. 710.

of dealing only with the medical profession, have been palming off on it under false names and titles, mixtures as bad as any produced by the first class. There is a third most important class of manufacturers, the manufacturers of the legitimate, so-called synthetic chemical compounds which are being so largely exploited in medicine. The most serious problem confronting us arises from the enormous increase in the numbers of such compounds.

The source of the rapid increase lies undoubtedly primarily in the competition for trade, in the desire for gain. The phenomenal commercial success of such synthetics as antipyrin, phenacetin, saccharin, etc., stimulated enormously the search for similar treasure-bringing discoveries, both in commercial and in university laboratories. The great commercial houses understand very well that for real and continued success they must offer preparations of real, intrinsic medical value, and to secure these they have been compelled to make science their handmaiden, and to go at the commercial problem through scientific experimentation. In this way they undoubtedly are doing a service to humanity as well as to themselves.

There is a legitimate, ideal goal toward which this branch of science has a right to strive; we have every reason to believe that with patient work we can improve vastly on the valuable alkaloids and similar compounds offered us by Nature. The great work of Fischer on the vital relations between the configurations of the sugar molecules and their ability to ferment and support life shows us the goal is not an impossible one. It is true that we have made comparatively little progress toward this goal—chemists have given to the medical profession a number of more or less valuable preparations, but their successes have been very few and this would be discouraging if history did not teach a lesson of patience.

It took our great organic chemist, Professor Baeyer, fourteen years to determine exactly the nature of indigo, and it took about fourteen more years to develop methods for the successful manufacture of this one compound.

This should teach us patience in our progress toward the goal of medical chemistry. The problem here is a far more complex and more important one, but it should lead ultimately to the chemical preparation of these specific antitoxins which we must now draw from animals.

In the manufacture of synthetics it is difficult to separate the good from the bad, and experience obtained at the expense of the one life, the one health of individuals, is too costly. Physicians do well to hesitate before this array of new synthetics. The manufacturers are interested parties; many so-called investigations and write-ups under unknown names are likely to be the bait in the trap. Shall physicians seek safety in standing still, or hesitate to take a forward step from fear it might prove a backward one? The only scientific solution of the problem lies in the establishment of some international institution for the impartial testing of promising new synthetics; or in the formation of central bureaus of critical disinterested review.

The need of a check even on our great houses was brought home forcibly to my mind in some recent examinations I had occasion to make as a member of the Council on Pharmacy and Chemistry of the A. M. A.: a preparation from one of our great American houses bore in its literature the truthful statement that it is acetylamidobenzene-trimethylxanthine. I wonder how many physicians recognize that these thirty-five letters spell in simple English acetanilide plus caffein, a mixture as bad as any of those recently exposed, but coming from a great reputable firm and parading correct chemical synonyms other than those usually employed by physicians. This same firm widely advertises to the profession a certain hypnotic as being much safer than chloral—it bears in its description the statement that it is a compound of chloraethanal with a higher

polyatomic alcohol, which is true. To a chemist that spelled at once chloral combined with glycerin. What physician, who would hesitate about prescribing chloral, would not like to use his own judgment as to whether chloral plus glycerin would be any safer? Physicians ought to insist that all chemical compounds should pass before some reviewing board which will insist that the manufacturers give the plain truth, the whole truth and nothing but the truth!

THE RESPONSIBILITY OF THE MEDICAL TEACHER FOR EXISTING CONDITIONS.

CHARLES SPENCER WILLIAMSON, M.D.

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CHICAGO.

(*Abstract.*)

The young practitioner is an epitome of the ideas of his teachers. The medical student must learn methods, plus the details of putting these methods into practice.

The physician differs again from most of his brethren in other professions, in that his knowledge must be so co-ordinated and correlated as to be available for instant use, without reference to any authority. The principles of the art and science of medicine must come first. They are the sine qua non for the successful understanding of any given medical topic. When one reflects on the enormously overcrowded medical curriculum of to-day, when every teacher on the faculty is clamoring for more hours for his especial subject, it is easy to understand that some things must suffer, and therapeutics is too frequently the one affected.

The professor presents a given case, discussing in full its etiology, pathology and diagnosis. The treatment is dismissed with a short reference to the general principles involved.

Time and again our most brilliant teachers will finish a clinic on chlorosis with the statement that the patient has been getting iron, and has been improving under its use. In one sense the details of its administration are unimportant, but it is exactly such teaching as this which leaves the student's mind in a receptive condition for the literature on the thousand and one iron nostrums which will pour in on him from the day he hangs out his shingle. The nostrum man thoroughly appreciates this fact. He takes particular pains to send with the very attractive looking samples precise information as to dose, administration, etc. Our young physician knows that iron is indicated. Why, then, should he not give preference to a preparation which, as the circular of information very distinctly tells him, will produce results far beyond anything contained in the Pharmacopeia?

If the teacher had spent ten minutes telling the essential facts in regard to the iron preparations, and that many of the newer iron preparations are worthless, the value of that clinic from a practical standpoint would have been doubled. If a student were told plainly that the claims of many nostrums are absurdly extravagant, and that for every nostrum one can find a better and simpler preparation from the Pharmacopeia, he would hesitate before putting his signature to a prescription for any such preparation. He should be taught to estimate at their true value the opinions of physicians whose principal claim

to fame rests on the fact that their name is signed to a report on the efficacy of somebody's cure-all. He should be told that more than one person has written laudatory reports of somebody's preparation for no other consideration than that he was well paid for it.

I requested a pharmacist to go over some hundreds of recent, consecutive prescriptions, with the result that just 20 per cent. of these prescriptions call for some of these objectionable nostrums. I do not lose sight of the fact that a considerable number of proprietary preparations may be found by our Council on Pharmacy and Chemistry to have sufficient value to entitle them to consideration. But the nostrums to which I refer are such as are wholly objectionable because of their mode of advertisement, or because of the absurdly extravagant claims made for them. From this it will be perfectly apparent that the nostrum evil is one which has touched to a greater or less extent, not only the young and inexperienced practitioner, but also men of years of experience and reputation, in some cases the very elect.

A considerable portion, if not all of the instruction in therapeutics proper, should be under the auspices of the chair of practice and closely correlated with it.

CONCLUSIONS.

1. The subject of medicinal therapeutics in general has been subordinated in an undue degree to pathology and diagnosis.

2. In his teachings of therapeutics clinically the medical teacher has contented himself too often with vague general statements instead of recognizing that the subject is essentially one of detail, and entering on its discussion in the most minute way.

3. The teacher has presented the subject of therapeutics at the psychologically wrong moment instead of in direct connection with the subject of practice.

4. The teacher of materia medica has often failed to do his complete duty in not acquainting the student with the situation in regard to nostrums as it actually exists, and by thus sounding a note of warning, sending him out forewarned and forearmed.

WHY THE WORK OF THE COUNCIL ON PHARMACY AND CHEMISTRY IS NECESSARY.

J. H. Long.

CHICAGO.

(*Abstract.*)

When it has been made plain that the public or some section of the public has been systematically outraged for years the question arises, What are you going to do about it? There was a time when most of the medicines used by physicians were prepared by themselves or by methods with which they were familiar. The food problem and the medicine problem have much in common.

The trouble is not because of lack of supply of good food or good medicine. There is more good sugar, good meat, good flour and good vegetables than ever before. So there is more good quinin, good calomel, good opium or good chloroform in the world than ever before. We are being ridiculed, mystified and sometimes even bribed into believing that the thousand and one new things are so much better than the dozen or fifty old things with which we have been long familiar and the virtues and faults of which we know. The root of the whole evil may be referred back to the advertising mania. With great gain to the people as a whole, 95 per cent. of all advertising might be dispensed with.

The manufacture of standard drugs is a legitimate and long established business which requires no special advertising. Fake medicines must be advertised widely to sell. If the publicity can be checked the frauds must fail. The

medicine manufacturer naturally looks to the medical journals as his advertising medium. If in the minds of the publishers of such journals the right sentiment against fraud can be created the battle for honesty and decency here is practically won.

But in striving to shut out the advertising of fake medicines there is always some little danger of excluding also a really meritorious article. There should be some way of proving the truth or falsity of the claim before accepting or rejecting an advertisement, and such considerations were among the first to suggest the value and importance of the Council on Pharmacy and Chemistry.

Until recently few publishers of medical journals gave much thought, apparently, to what went into their advertising columns, since most of these journals carried, and some continue to carrry, advertisements of medicines as preposterous as Lydia Pinkham's, Peruna, and Wine of Cardui.

WORK OF THE COUNCIL ON PHARMACY AND CHEMISTRY.

About a year ago the Council on Pharmacy and Chemistry was organized. This council consists of three committees—one on pharmacy, one on pharmacology and one on chemistry. The men constituting the council are active in different lines of scientific work related to medicine, and with this division of labor it is possible to scrutinize an article from several standpoints. Very often samples of the articles to be advertised have been sent to all members of the council for study. Already some good results have been reached and a number of frauds have been publicly exposed. I recall, for illustration, the acetanilid mixtures, but these are not all. They were merely the beginning of a series, and as the work of the council progresses it will do for medicines what those connected with some of the state food commissions are doing for what we eat. Surely the medical man should know the exact nature of what he is asked to prescribe, and the work of the council is to find out and publish as far as possible the true nature of all articles of remedial nature offered to the physician.

This is a difficult undertaking and haste can be made but slowly. Above all things else, the work of the council must be correct, since great interests are at stake and justice to all must be done. The council does not care to pry into the secrets of the manufacturer's business, but it does insist on knowing the truth about the article manufactured if it is to be used in the treatment of disease. Hundreds of routine analytical and other examinations have been made and a good part of the time of the council has been consumed in investigating and, in some instances, showing up the fraudulent mixtures described as synthetic, which bear about the same relation to real synthetic preparations that a mixture of tacks, paving stones and ostrich plumes would bear to gold watches. Legitimate medicines have nothing to fear, but trash, hiding behind false descriptions, must be brought out into the light.

DISCUSSION.

President Bacon:—I think I express the opinion of the members of the Society, who have heard these papers, when I say that this is a wonderful collection of papers, and, perhaps, such a symposium as could be gotten up nowhere else in the country, or perhaps in the world than in Chicago. The credit for a symposium like this is due very largely to the initiative of the editor of THE JOURNAL of the American Medical Association, Dr. Geo. H. Simmons.

Dr. Ross C. Whitman:—There is no occupation in the world, I suppose, more pleasant than that of preaching; it is so easy and it makes one feel so virtuous. So I want to preach a little, too.

It seems to me that there are two or three points in connection with this symposium on proprietary medicines that have not been sufficiently dwelt upon. Some of them have been touched on lightly. The first point is one referred to by Professor Puckner, in reference to the southern practitioner who used calcium sulphate in place of quinin for a number of years, with entire satisfaction. I have contended for a long time that in ninety-nine cases out of a hundred, when a man wants medicine, it makes no difference whether you give him precipitated chalk,

water, quinin, or any other placebo, he will get well anyhow, and in one case just as fast as in the other. This fact is largely responsible for the ease with which glowing accounts of the miraculous effects of remedies are obtained, and by some accepted. We are all prone, I suppose, when we give some particular drug in some particular condition, to ascribe the resulting cure to the drug employed, whereas, of course, this is often, indeed usually, far from the truth.

Then we need to remember that whatever the drug employed, its action is fixed and certain, regardless of the menstruum in which it is given, provided we are assured of its freedom from adulteration, and barring variations due to peculiarities of the patient. Whether aloes, cascara, glycerophosphate of lime, cod-liver oil, calomel, they remain always the same, no matter how administered. Aloes is still aloes, whether dissolved in syrup of lemon, syrup of prunes, simple syrup, or syrup of figs. This being true, no witchcraft or miracle is to be looked for in the use of one maker's preparation over that of another. Battle's Bromidia will put any one to sleep, it is true, but it is not Battle who does it. There is nothing mysterious about its action; it is simply the chloral, the cannabis indica, the bromids, the hyocyamus which do the work. If you wish knock-out drops you can put up just such a preparation for yourself, and if your preparation fails to do the work, you must confess ignorance of your dose book or conclude that Battle puts something in his not specified on the label.

A few years ago, when I used to do the buying for an institution in the country, detail men used to come to me and offer me their wonderful elixirs and syrups, and when I told them that I could put up my own easier than pay them $2.50 a gallon for syrup, they almost doubted my sanity. If I wanted bromid they could give me an elixir of bromid, but no bromid "straight." But I told them bromid was bromid, and it made no difference to me whether it was Jones or Peacock or quail who stirred the bottle. But they could not see it. And they offered me pills, emmenagogue pills, and aphrodisiac pills without number. The formula was always given, of course, but also, of course, there was some miraculous good in that pill, beyond and above the formula, due to "the manner of compounding." This "manner of compounding" dodge reaches everywhere. Even our old friend calomel did not escape. There was a preparation called calolactose, one part calomel, nine parts sugar of milk; but I couldn't make that mixture even if I wanted it. I didn't know enough.

Finally, for the remedy; it is always easiest to blame the other fellow. Adam's plea, "the woman Thou gavest me," is as old as the earth. But no true reform for the evils we are inveighing against to-night can ever be obtained without also reforming the evils which give it being. That is a truism of medicine. We must "remove the cause." I once worked for a short time under a chief who had in his medicine closet bottles labeled with the dose and indications of his remedies, but very little as to the contents of them. His reading was confined, so far as I could observe, to the more or less smutty stories in the back pages of the *Medical Brief* and other such journals. I believe that, just as the yellow newspaper, the dance hall, and other public evils, will flourish so long as they find a public to patronize them, so our evils will endure as long as we have in the profession men who consult the labels on the bottles, the advertising pages of the journals for help in a tight place, and who let the manufacturers of drugs do their thinking for them.

Dr. Rosalie M. Ladova:—The symposium of this evening has demonstrated beyond the shadow of a doubt that the use of proprietary medicines as well as nostrums is a primary evil. It is surprising to what extent these medicines are given and are recommended by practitioners of medicine. I remember very well when I started to practice medicine that detail men came to me and wanted to give a lecture about the use of certain medicines. I did not want to listen to them, but after seeing that other practitioners in the suite would take these men into their offices, give them their time, and treat them with a great deal of courtesy, I made up my mind I would have to do like the rest for fear of disagreeable notoriety. Every practitioner of average intelligence can not help seeing that he is not guarding his interests, his time, when he allows these detail men to bring

samples, listen to their lectures, etc. In this way practitioners are encouraging the proprietary interests. I believe we should take action in this matter. We should write editorials on the evil, and at the same time we should see that objectionable advertisements are excluded from the columns of medical journals without regard to the professional standing of those journals. We see medical men in high standing who are promoting proprietary medicines of their own make, who are putting them on the market and are competing with other drug houses that are in most instances lay concerns. I would suggest that this Society take some action to-night, by resolution, that it is inconsistent with our professional pride for medical men to encourage proprietary interests in any shape, way or manner, and that it is unprofessional for medical men to put drugs of their own preparation on the market, advertising them in the manner that drug houses do. Also, that it is not ethical for any medical journal to publish proprietary medicine advertisements under all kinds of names that sound like fairy stories in their advertising columns.

Prof. C. S. N. Hallberg:—Evidently Dr. Whitman is on the right track, but I do not believe that he made himself clear. What the doctor had in mind probably was this, that the physician should have a clear idea of the particular medicinal agent or agents that he desires to use, and then endeavor to formulate the various forms of medication that he desires to present, and if he cannot do this satisfactorily he can get the aid of the pharmacist. It is the lack of consideration of this which leads to the endless multiplication of all the different mixtures and nostrums. Just as Dr. Whitman has stated, we have various salts, for example, glycerophosphates, and if a physician wants to use them, there is no reason why he should take up any of the score or more different preparations of glycerophosphates, elixirs and syrups, etc., galore. Let him formulate his own preparations, with the aid of the pharmacist, or with the aid of the Pharmacopeia and National Formulary, and by so doing he can easily get a preparation which is satisfactory, and which will be much less in cost to the patient.

I would like to add one more thought to this symposium. There is a tendency on the part of those who are particularly interested in medicines, also a good many physicians, who believe that it is not so essential, it is not so necessary, to know just what a preparation contains, or what the medicine is; that if it does the work that is all that is necessary for him to know. A physician must know the character, he must know that there is a standard by which he can judge of the purity, quality and strength of the medicine he uses, otherwise there is nothing to prevent a manufacturer, or dealer, or pharmacist at any time from making such changes in these various preparations or characteristics as to defeat the purpose in view. In other words, the ideal of the pharmacopeia must be held to be the central idea. It is to insure uniformity above all, so that when a physician prescribes a combination of medicines one day or at any one place, he may and can safely rely that he will have the same preparation when it is dispensed again at some other place. It has been said by the essayists that it is perhaps impracticable for a physician to confine himself to the pharmacopeia. We may grant that as true. And it is true that the medical profession have not taken the interest in these things that they should have done, and that they are really responsible if there is any lack in the medical status of the pharmacopeia. But if physicians must go outside of the pharmacopeia or its supplement, the National Formulary, there is no reason why they should not utilize the pharmacopeia as the basis of their preparations or combinations of remedies. In other words, employ such medicines only as conform to the ideals and standards of the U. S. Pharmacopeia.

Dr. Edward H. Ochsner:—Two points have been brought out very prominently this evening in connection with this symposium, first, that the nostrum evil is a great one, and second, that we as physicians are fundamentally responsible for it. Professor Puckner has brought out the reason for this state of affairs. It is because we, as physicians, are not sufficiently well informed about chemistry and pharmacy. Our knowledge is deficient in these branches, because we have not been properly taught in our medical schools. Fundamentally, our med-

ical schools are at fault, because they try to teach us too many things about drugs. When I studied pharmacy and medicine, I was compelled to learn something about the 998 drugs then official in the United States Pharmacopeia. If the medical teachers and the State Boards of Health of this country would get together and agree upon a certain number of drugs with which the students and the physicians that come up before these bodies for their examination would be required to be familiar, it would then be possible for us to be well acquainted with the few important drugs, which are actually valuable in practice. During my course in college I prepared for a competitive examination, and in order to stand any show against my competitors I was compelled to know the names, doses, methods of preparations, etc., etc., ad infinitum, of 998 drugs. If I could have spent all of this time on say 200 of the important preparations, my knowledge would have been much more valuable to me in practice later. As it was, I was compelled to burden my memory with a lot of rubbish, and consequently did not have time to learn the finer points about materia medica and pharmacy that would have proven very useful in actual practice.

Dr. ————————:—It seems entirely unscientific for a physician to prescribe any medicine at any time, unless he knows that it is going to help the patient, and how it is supposed to help the patient. He should not prescribe any agent simply because some other physician, possibly a great man, has found it useful in a certain disease. If such a course is pursued we are simply doing what our grandmothers and quacks and faith curers are doing. We should always try to find out not only whether a given medicine is going to help a patient, but how, and have a definite idea in our minds how a drug is going to help the patient, and study along that line. It seems to me this is the only way we can arrive at a scientific demonstration of the kind of drugs to use.

Dr. Edwin B. Tuteur:—I would like to say one word about a matter which has been to some extent overlooked. Most of the gentlemen stated that ignorance and lack of proper training had much to do with the non-prescribing of medicines by physicians, and with the consequent use of patented and other ready-made preparations. I do not agree with this statement in its entirety, but I do think that some of us have adopted a slovenly habit, so to speak, in regard to prescribing; that is, we will prescribe or actually tell people to use such preparations as castoria, syrup of figs, cascarets or omega oil. If our patients ask us if they may use this or that patent remedy we will say, customarily, "Why, yes, use it; it is very good." And there are few of us here to-night who, when we have been asked by our patients whether castoria is not good for the baby, for they have it in the house, have not said, "Yes, give it to the baby. It is fine." Or if a patient has a sprain and there be omega oil in the house or in his brain he may ask the doctor if that is any good. And the doctor possibly replies, "No, I don't think you had better use it." Whereupon the wife may say that it once did her husband much good, and the doctor will carelessly remark, but in a half apologetic way, "Yes, it *is* pretty good; you had better use it. It won't be necessary for me to write a prescription." In short, it is oftimes the slovenliness of habit on our part and a sort of fear to run counter to the popular conceptions of the value of these commonly used and well advertised remedies, rather than ignorance, that causes us to accept and even prescribe them.

Dr. S. A. Matthews:—So far as the public is concerned, I have very little to say. They are the sufferers from the nostrum venders. Let me make one suggestion as a means of protection to the physician. I might say that a certain per cent. of physicians acquire their knowledge of materia medica and pharmacology very largely from the wrappers of sample bottles that are sent to them, and they do not always get it from low-class nostrum venders. I have seen such literature on pharmacology sent out from such a firm as Parke, Davis & Co., which we all know is a reputable firm, and whose preparations are open and meritorious. Take, for instance, the preparation known as chloretone, which is a combination of chloroform and acetone. It is sent out by this reputable house as a great hypnotic. While the preparation is meritorious within certain limits, especially as a laboratory anesthetic, pharmacological research does not show

that it is a safe hypnotic to be used so indiscriminately as the firm's literature would indicate. This is an example of a leaning towards commercialism by a reputable house at the expense of conservative facts.

In our education of the physician, a suggestion of this kind might be offered: There are various medical journals, but one in particular, that has a large circulation throughout the United States. It reaches more physicians in this country than any other one journal. Now, if that journal could secure the services of some competent pharmacologist to take up the various drug or chemical compounds that are of known use in medicine and discuss them in terms of physiology on the one hand and of pathology on the other, and draw their therapeutic significance from these sources in a short article in each issue of the journal, I believe it would stimulate the physicians to think more logically along these lines, at least it would be a means of educating the physicians along a much neglected line and lessen his tendency to put too much confidence in the literature of manufacturing chemists, and none at all in nostrum literature. It seems to me that a good deal of this prescribing of patent medicines or proprietary preparations arises largely from the ignorance of the physician, and yet I do not know that the physician himself is absolutely responsible for his ignorance. He has done the best he could; he has attended a medical school or schools, in which sufficient attention has not been devoted to physiology and pharmacology, and hence his so-called materia medica is nothing but a mere empiricism. While this mode of education would entail considerable work on the part of some one I believe the physicians at large would not only appreciate, but be willing to pay for such instruction.

Dr. W. C. Abbott:—Probably no question ever has or ever will come before the medical profession of this country of the magnitude and importance of the one which has been roughly presented to-night. I say "roughly presented" with all due respect to the able essayists, because they know, as well as we all know, that this is but the initial—the very beginning—of the great work before us. One of the important principles of commerce is that the demand determines the supply. Now, gentlemen, there is a reason for this most lamentable condition. The reason has been alluded to repeatedly to-night—ably, pointedly and thoughtfully so. It was broadly hinted at by Professor Ochsner, who has just spoken.

In our medical schools we are not taught clear-cut, optimistic therapeutics along with the clinical application of means and methods—departures from the normal, the exact condition existing, the physiological disequilibrium, and what in our armamentarium, be it drug or expedient, be it psychologic or what not, will reproduce equilibrium bringing the patient back to health. We go out from our medical schools, Mr. President, but weakly able to cope with disease. We go out as embryo self-suggested specialists, versed and interested in everything surgical and pathological; but where is the man who, when he goes out, can say squarely, and with honesty to himself and to his patient, that he knows, therapeutically, just the best thing to do in the ordinary conditions that constitute seventy-five, yea, ninety per cent. of all the problems that come to the average physician?

You know, ladies and gentlemen, that I am speaking the serious truth. Our time in medical colleges is taken up largely by every other department of medicine excepting that of genuine therapeutics and practice. Unfortunately, the medical college does not pay its teachers as it ought to do; therefore, the man who gets the most out of it is the one who can, profitably, and will give the most of his time to it, and he, we all know, is not the professor of practice, or the professor of therapeutics (and they should be one and the same). Therefore, I say, the great problem before us is how to so stir up this matter that more attention will be given to therapeutics. The gentlemen who have read these papers are beginning at the wrong end, but the only one available just now, and that is the pocket both of the doctor and the manufacturer. When this thing is well stirred up, when medical colleges begin to teach as they should, instead of having to take our therapeutics from the manufacturers of proprietary preparations, be they ever so good, we shall know a thing or two ourselves.

Dr. Simmons, in closing the discussion, said he desired to correct an impression that he feared had been created by Professor Long in regard to the

work of the Council on Pharmacy and Chemistry. In the beginning the idea was to have a committee to examine into the preparations offered for advertising in THE JOURNAL, but the movement has gone far beyond that. Professor Long referred to the completion of the work of the Council, but the work will never be completed, because it will have to be kept up so long as new compounds or mixtures are forthcoming.

One thing has not been brought out, and that is that many of the preparations that are being offered to physicians are absolute frauds; and yet the Council, after discovering they are frauds, cannot publish them as such, without the full facts. The Council must be absolutely sure of every move it makes, and that every statement made is founded on facts that can be brought into court. The object of the Council is really to approve, not condemn, preparations. An exposure of fraud is necessary, occasionally, to arouse physicians to a realization of the fact that they are being humbugged.

JOINT MEETING OF THE CHICAGO OPHTHALMOLOGICAL AND CHICAGO MEDICAL SOCIETIES.

The meeting was held Feb. 21, 1906, with the President of the Chicago Ophthalmological Society, Dr. Geo. F. Fiske, in the chair. Dr. William H. Wilder read a paper entitled "Tuberculosis as it Affects the Eye."

TUBERCULOSIS AS IT AFFECTS THE EYE.

WILLIAM H. WILDER, M.D.
CHICAGO.

The infrequency, one might say rarity, of any form of tuberculosis of the eye, in view of the great prevalence of the disease in certain other organs and structures, is a subject of comment among ophthalmologists. Furthermore, one would expect to find more frequent involvement of the uveal structure of the eye, in view of the fact that this part is so vascular and thus so favorable to endogenous infection. Again, the exposure of the eye ball and the conjuctiva to all kinds of infection would lead us to expect that tuberculosis would affect it through the air; but, while there is no question that this does occur at times and that in this way the conjunctiva may even be the point of entrance for a general infection, still it must be admitted that this is comparatively infrequent. In this connection a few statistics as to the frequency of tuberculosis of the eye may be of interest. Hirschberg, among 30,000 eye patients, found tuberculosis of the eye but 12 times; Kunz, among 30,000 eye patients, had 23 cases of tuberculosis. Eyre observed, among 31,000 eye patients, 11 cases of tuberculosis of the conjunctiva; von Milligan, one case of conjunctival tuberculosis among 20,000 patients. Terson, among 30,000 eye patients, saw 2 cases of tuberculosis of the iris; Stephenson, among every 1,500 eye patients, observed one case of conjunctival tuberculosis. As stated by Groenouw, such statistics are hardly to be considered of equal value, for with advancing knowledge and improved means of dignosis, the number of cases recognized as tuberculosis will probably increase.

EYELIDS.

There is a noticeably greater frequency of infection of the eye through that form of skin tuberculosis known as lupus, which may affect the eyelids, either primarily or by extension from the skin of the face. According to different observers primary lupus of the eye occurs in from 3 per cent. to 5 per cent. of lupus cases, while, secondarily, the eye becomes affected in from 25 per cent. to 40 per cent. or more of such cases. This is the form of tuberculosis which most frequently affects the eyelids, occurring in well-known, characteristic, small brownish nodules of soft consistence, that may break down and form ulcers or that may be absorbed and replaced by cicatricial tissue. In this manner the eyelid may be destroyed, and the conjunctiva and even the cornea invaded; or frightful deformities may result from the ectropion, and from shrinking of the conjunctiva; or the eyeball itself may be lost.

The theory that chalazion is of tubercular origin is founded on the histological appearance of structure resembling tubercle with giant cells, but this is by no means conclusive. Landwehr, von Wichert, and others have claimed to find tubercle bacilli in such structure, but the accuracy of the observation has been questioned because numerous inoculation experiments made by Henke, Ascheim and others have given negative results, and no reaction either general or local has followed injection of tuberculin. It can probably be safely concluded that chalazion is not of a tuberculous nature. The tarsus of the lids may become involved by an extension of the disease from the palpebral conjunctiva, and, in such an event, might possibly show a thickening that would simulate in appearance chalazion.

CONJUNCTIVA.

Tuberculosis of the conjunctiva is a rare disease and is usually primary. Denig, studying 72 collected cases, found that in 52 of them tuberculosis of no other part was demonstrable. In 14 of them there was suspicion of the disease, but in only 7 was tuberculosis of other organs present, apart from lupus or tear sac infection. The infection occurs from other tuberculous persons, from animals, from some tuberculous lesion on the patient's body, or from the sputum, if he has lung disease. Wounds or injuries, or even operations on the conjunctiva, may furnish means of entrance for the infection, and the presumption that an abrasion of the membrane is necessary to the introduction of the disease is strengthened by its remarkable infrequency. Valude declares that the tears not only wash away the germs that may gain access to the conjunctival sac, but that they actually inhibit the growth of those that might remain. The disease, usually unilateral and affecting young persons of from 10 to 30 years, is of several types. It appears as small tubercles, somewhat resembling enlarged trachoma follicles, miliary or larger ulcers, proliferations of the conjunctiva in tumor or polyp-like masses, and finally, as lupus. These different forms are by no means fixed types, but may pass from one into the other. For example, the tubercles may break down to form small ulcers; these may coalesce and enlarge, and around them may grow up the proliferations that form the polyp-like masses. The palpebral, rather than the ocular conjunctiva, is affected, although the latter may be involved by extension.

The nodules vary in size and the ulcers are ragged, with dirty looking floor. The lid is usually thickened, probably from invasion of the tarsus. There is not much pain, and the secretion is rather scanty. In the course of the disease the cornea may be attacked, ulceration may occur, and an extension of infection may lead to panopthalmitis and loss of the eye. The preauricular glands and even the cervical and submaxillary glands may be enlarged. The differential diagnosis must consider syphilitic ulceration, trachoma and epithelioma. Histological and bacteriological examination may show clearly the character of the case, or, if it is doubtful, injection of tuberculin, or even inoculation experiments may establish the diagnosis. The prognosis in primary cases is not so grave, if the character of the disease is promptly recognized and proper treatment instituted. Severe destruction of the conjunctiva may occur, however, and it must be borne in mind that general infection may develop from such a focus.

CORNEA.

Primary tuberculosis of the cornea is even more rare than that of the conjunctiva, and, when it occurs, is probably dependent upon direct infection through an abrasion. The reason for the infrequency of this infection is probably to be found in the fact that foreign particles do not easily remain on the smooth surface of the cornea, but are swept off by the tears and the motion of the lids. When infection does occur, tubercles may develop in the peripheral portions of the cornea, or in the adjacent sclera, and gradually invade the central portions of the corneal tissue. The epithelium may break down and ulcers may form. The character of such ulcers may be determined by studying scrapings from them, in which tubercle bacilli may be found. In these cases of tuberculous keratitis the cornea presents the same appearance as that seen in rabbits or guinea pigs on which inoculation experiments have been practiced.

The form of keratitis known as parenchymatous or interstitial is probably more frequently of tuberculous origin than has formerly been supposed. Usually this disease, which affects persons before or about the age of puberty, or in young adult life, owes its existence to inherited syphilis, of which well marked manifestations are usually present in the majority of cases. In a small percentage of such cases, however, a number of observers, among them Michel and Bongartz, von Hippel, Wagenmann and Zimmermann, have demonstrated the presence of tuberculosis, the last named observer finding the bacilli. Enslin, who studied 24 such cases with tuberculin injections as a diagnostic aid, found in 11 of them clear signs of inherited syphilis, in 5 tuberculosis or a disposition to it, and in 3 evidences of both diseases. In the 8 cases he obtained typical general reaction, but not local, after the injection of the tuberculin.

I have now under observation a well pronounced case of interstitial keratitis in a healthy young woman of about 20 years of age, with no signs of inherited syphilis, which has given a typical reaction to the tuberculin injection.

In such cases it is possible that all the appearances of the disease may be produced by the circulation in the cornea of the toxins of the tubercle bacilli, without the development of tubercles, and this is probably true in those cases of tuberculosis of the iris or adjacent sclera, in which the cornea is implicated to a certain extent. The cornea may, of course, become involved secondarily in tuberculosis of the conjunctiva, which manifests itself as pannus, and causes ulceration. A tumor-like mass develops around the limbus which may simulate epithelioma.

The treatment of corneal tuberculosis is largely local. Cauterization may be necessary. Inflation of the anterior chamber with air has been practiced with success by Koster. Subconjunctival injections of normal salt solution or mercurial salts may be practised and tuberculin injection may be tried. If the cornea is destroyed or the eye is blind, it had better be removed, as it may be the focus for a general infection.

IRIS.

Tuberculosis of the anterior part of the uveal tract, namely, the ciliary body and the iris, is somewhat more frequent than the forms we have been considering, although by no means so common as one might expect, in view of the vascularity of this part. It is doubtful if it is ever primary, except as a result of injury of the eye. The metastatic nature of the infection is fairly conclusively shown by the fact that in two-thirds of the cases reported there existed tuberculosis of structures other than the eye. Clinically, it manifests itself in two forms, disseminated miliary tubercles, and a single tuberculous mass, which from its appearance was formerly described as a granuloma. The form may be mixed, the small tubercles coalescing to form a single mass, while other smaller masses may develop in the adjacent region. In the first or disseminated form several small reddish nodules, varying in size from the tiniest to 5 mm. in diameter, and surrounded by a zone of small vessels, make their appearance in the lower quadrant of the iris, and by preference in the root zone, although not invariably, for they sometimes are seen in the pupilary zone, or at the margin of the pupil. They may increase in size and coalesce, or some of them may disappear, but the entire iris becomes discolored, loses its lustre, becomes adherent to the lens, and, in some instances, may be covered by a mass of exudate that conceals the tubercles, partly fills the anterior chamber, and occludes the pupil.

In the second form of the disease a solitary tuberculous mass develops slowly at the root of the iris, preceded by signs of iritic inflammation, which may, however, be almost entirely absent. This form of the disease is usually unilateral, while one-third of the cases of disseminated form are bilateral.

The solitary tubercle mass grows slowly, but it may fill the entire anterior chamber, perforate the cornea, and present as a proliferating granulation mass which was formerly spoken of as a granuloma. In such cases the inflammation may be violent, with chemosis and edema of the lids and even swelling of the neighboring lymph glands. The course of the affection is usually slow, and, after a time, in favorable cases there is a recession of the disease, an absorption of the tubercles, and a certain degree of vision restored. To such benign cases, in which

it is supposed the infection is slight, and in which the bacilli are scanty, Leber has given the name, attenuated tuberculosis of the iris.

Several authors, notably Bürstenbinder, Quint, Michel and Haas have maintained that another form of iritis, without tubercles, but of tuberculous origin, exists. According to Groenouw, in such cases there may be tubercles only visible with the microscope, or the inflammation may be excited by the influence of toxins. Michel and Haas go so far as to say that in 50 per cent of all cases of iritis and irido-cyclitis tuberculosis acts as an exciting cause. This seems to be an extreme position. In the severer cases the prognosis is grave. According to Groenouw in 48 per cent. of the disseminated cases enucleation was necessary, in 9 per cent. a blind eye was retained, and in 43 per cent. there was recovery with partial vision. It was more serious, however, with the solitary granulation form, for in this he records only 5 per cent. of cures, 6 per cent. of blind eyes retained, and 89 per cent. of total loss.

In a total of all cases of tuberculosis of the iris and ciliary body he finds that in 26 per cent. there was cure; i. e., preservation of the eyeball with a certain degree of vision, in some cases slight; in 9 per cent. the sight was lost, but the eye ball retained, and in 65 per cent. the eye ball was removed. The prognosis is noticeably less favorable in cases under 10 years and over 20 years, according to Schieck. Before the age of 10 years, 16 per cent. recovered, after the age of 20 years 17 per cent. recovered, between these ages 71 per cent. recovered. The diagnosis in typical cases will be made from the clinical appearances, but these are not absolutely reliable as the tubercles may be simulated by syphilis, lepra, ophthalmia nodosa, leuco-sarcoma or glioma. The only positive proof is the demonstration of the bacilli or the successful result of inoculation experiments. If the bacilli are very scanty both these tests may fail. As to the reliability of the tuberculin test in such cases there is naturally some question. I recall one case of tuberculous iritis, demonstrated as such by examination after removal of the eye, in which no reaction, general or local, followed repeated injections, but this was in 1891, before the present methods of using it were understood. Even if one observes a general reaction after its use, there may be no local reaction to guide him, and as most of these cases are secondary, it might be difficult to say whether the reaction was caused by the eye lesion or by some distant focus of tuberculosis. However, in cases of doubt, the reaction following the injection of tuberculin would be strongly presumptive of the tuberculous nature of the eye lesion.

The treatment must include constitutional as well as local measures. Of the latter, those suitable to iritis should be employed, but additional mention should be made of injection of air into the anterior chamber as practiced by Koster and Felix with favorable results. Evidence is accumulating that in tuberculosis of the eye, and particularly when the iris is involved, tuberculin in small doses of 1/500 to 1/5 mg., or even more, is efficacious, and the unusually favorable results reported by von Hippel, Schieck, Reunert, Falckenberg, Gamble and Brown as well as others, go far toward demonstrating the value of the measure.

CHOROID.

The choroid is also affected secondarily by tuberculosis and usually metastatically. This occurs in the form of miliary tubercles or of a solitary tubercle as in the iris. In miliary tuberculosis of the choroid there are no outward signs of the inflammation, and the media remain clear, so that the tubercles may be seen with the ophthalmoscope. They are seen as yellowish white masses in the posterior part of the eye, from 1 to 15 or 20 in number, varying in size from the smallest up to that of the optic disc. They are not surrounded by pigment, and the retinal vessels pass over them uninterrupted. They are sometimes so small as not to be detected with the ophthalmoscope, and may be discovered by section at the autopsy. They sometimes grow rapidly and spring into view in a few hours. Both eyes are affected in more than half of the cases.

They are frequently found in acute miliary tuberculosis and especially in children, ocurring in from 35 per cent. to 45 per cent. of acute miliary tuberculosis and tubercular meningitis. In acute miliary tuberculosis they are of unusual prognostic import, often appearing a few days before the death of the patient. Again they may be of diagnostic value for they may be the first sign of a latent

tuberculosis. In the solitary tubercle or conglomerate tubercle of the choroid, usually unilateral, there is a whitish prominent mass in the eye ground of the size of the optic papilla or larger that simulates in appearance a sarcoma. The retina is raised up by the tumor. It is secondary to tuberculous disease elsewhere. The patients are usually children or young adults, and usually die very soon; if they survive, the growth may perforate the sclera and invade the orbit.

RETINA.

Tuberculosis of the retina is so rare that only a few cases have been reported. When it does occur it is probably associated with tuberculosis of the uvea or with an infection of the optic nerve; in the latter case there would be seen severe papillitis which might obscure the tubercles in the adjacent retina.

The optic nerve head or the nerve itself may be the seat of tubercle. When the papilla is affected, the tubercles may be seen ophthalmoscopically, unless the resulting optic neuritis is so intense as to cloud the picture. The nerve may be affected without any evidence on the part of the optic disc until an atrophy begins to show. In general tuberculosis the nerve may be involved from an extension of the disease from the meninges, or from the bones of the orbit, and while visual symptoms may be present there may be no signs visible with the ophthalmoscope. The disease may develop by infection through the lymph spaces but in most cases is an extension downward of a tuberculous meningitis.

By way of summary it is well to recall the comparative infrequency of typical tuberculous lesions of the eye, if we except lupus of the eyelids; but there is strong presumptive evidence, as is pointed out by Michel and Haas, that many diseases of the cornea, iris and ciliary body may be of tuberculous origin in that they are excited by the toxins of the bacilli, although no typical gross lesions develop. Whether in such cases the use of tuberculin injections would have the same diagnostic value as in those in which the lesion is distinctly defined, remains still for positive demonstration. That the use of this measure for diagnostic purposes is safe, and in a large degree reliable, is shown by numerous observations and reports, one of the most valuable of which is that by Tinker, who has used it in more than 400 cases in surgical diagnosis. Finally the use of tuberculin as a therapeutic agent in tuberculosis of the eye has been followed by such encouraging results and has received such strong endorsement by von Hippel, Schieck, and others, that one is constrained to believe that in it we have a valuable means for the cure of a disease that in most cases proves so disastrous to the eye.

DISCUSSION.

The discussion was opened by Dr. Arnold C. Klebs, who said:

The study of ocular tuberculosis from a general point of view offers opportunities for the enlargement of our knowledge of this disease, more so than that of any other local manifestation. The processes of tubercle formation, its subsequent metamorphosis, destructive as well as reconstructive, can often be studied here as nowhere else in the body. The extreme rarity of the local disease stamps it as a curiosum from the ophthalmological point of view, but I feel sure that with our increasing interest in the disease in general many valuable contributions are to be expected from a study of certain forms of ocular tuberculosis. Dr. Wilder has pointed out that with perfected methods of diagnosis we have come to recognize as tubercular certain changes formerly attributed to other causes, and I believe we will still go farther and be able to discover and study tubercle formations (especially in the uvea) which although not producing symptoms, may add to our knowledge of the disease very materially. This leads us to the recognition of the fundamental fact, more and more insisted upon of late, that the terms "infection" and "disease" in tuberculosis do not have, necessarily, the causal relation which has been attributed to them, especially since the discovery of the bacillus by Koch. The whole subject of latent infection, which is receiving more and more attention, is still very little understood and contribution to it from the ophthalmologist may promote a better understanding.

The opportunity for direct observation of morbid conditions in the eye has also made this organ a popular field of experimentation. The experimental proof

of the inoculability of tuberculous material, made by Villemin in 1868, and further elaborated by E. Klebs in 1868, and Cohnheim in 1869, was soon demonstrated also on the eye. Of interest are the early experiments by Armanni in 1872. He scarified the cornea slightly and introduced a very small quantity of cheesy substance in emulsion. He found the wounds healing rapidly, but after two weeks there appeared on the points of inoculation whitish gray, submiliary nodules, with subsequent ulceration and spread of the process to other organs of the body. Similar results were obtained by Cohnheim and Salomonson in 1877. In these classical experiments, they were able to produce, after the introduction of tubercular material into the anterior chamber, a tubercular iritis twenty to thirty days after inoculation. Salomonson later in 1879, by introducing in the same way previously heated tubercular substance, followed by the non-appearance of tubercles, proved the specificity of tubercle tissue. Baumgarten in 1880 and 1881 repeated Cohnheim's experiments with tubercular material obtained from cattle, with positive results, thus unconsciously anticipating one of the subjects which, in regard to tuberculosis research, occupies at the present day a most important position. Since the discovery of the bacillus by Koch in 1882 much experimentation on the eye has been done with pure cultures, but our knowledge of the disease has not been advanced much more than by the experiments with tubercular substances.

Greater attention was given to the conjunctiva, the great absorptive power of which for certain poisons, as atropin, was very evident. In the eighties, Valude, after a series of very interesting experiments, called attention to the paradoxical fact that the conjunctiva, though offering great resistance to the tuberculous virus, could, on the other hand, be very easily inoculated after previous injury. Cornet, however, later on, was able to produce glandular tuberculosis, after introduction of bacilli into the uninjured conjunctival sac, thus showing the mucosa of the eye to be able to assume the important rôle as a port of entrance for tuberculous infection of the body. That microörganisms can enter the body through the conjunctiva without leaving traces in this organ, has been demonstrated by other experiments. Mention may be made of the experiments of Morax and Elmassion by which they were able to bring about a very rapid and fatal disease after introduction of the cocco-bacillus of plague into the conjunctival sac.

Over twenty years ago Weigert called attention to the difference in the penetrability of the mucous membranes in infants and adults, showing how rapidly infective agents could reach the lymphatic glands at an early age. As you know von Behring of late considers this fact of paramount importance for the understanding of tuberculous infection of mankind in general. This point, no doubt, can receive further elucidation by further studies of these conditions as relating to the conjunctiva. It is quite possible that we may find that the conjunctiva assumes in this direction a similar part as that played by the mucosa of the intestines. Looked at from this point of view also, the scrofulous affections of the conjunctiva, the phlyctenular conjunctivitis, particularly, will become more and more interesting to the student of tuberculosis.

But also in the study of the processes of immunity, natural as well as acquired, the eye offers a wide field for instructive observation. Dr. Wilder has alluded to the diagnostic and curative application of tuberculin in this regard. The fact that we are coming away more and more from the standpoint formerly assumed, viz., that tuberculin constitutes only the toxin of the bacillus, brings the subject of tuberculin diagnosis and treatment into an entirely new light. Tuberculin, as a diagnostic, has value only when we critically take into account its limitations and failures. As a remedy, the results reported by ophthalmologists are distinctly better than those observed in other lines of medical practice, so much so that we ought to be induced to give it a more patient trial in other than eye cases. This is being done extensively abroad, but the opinions about its efficacy are still divided. This may be due to the much more complex condition in pulmonary tuberculosis, which make a final judment so extremely difficult.

Behring's discoveries, incidental to his endeavors of cattle immunization, have

brought out new facts about the biology of the bacillus and its relation to certain cellular activities, which are bound to further modify our ideas about immunity in tuberculosis. I have not the time to enter into this subject any farther than to merely point out its possible direction. Experiments on the eye have furthered, to some extent, a better understanding of the relative importance of humorigenic and cellular immunity. The anterior chamber with its aqueous humor, free from cellular elements, offered distinct opportunities for comparative studies. Flügge, Nutall and others attributed its bactericidal property to the presence of a thermolabile substance (Buchner's alexine), while Metchnikoff showed that such bodies, called by him cytases, since they were contained within the phagocytes only, could not be present in the aqueous humor. Indeed, Pfeiffer's phenomenon (granular transformation of cholera vibrios) does not take place in the anterior chamber. For Metchnikoff this phenomenon is a valuable indication of the simultaneous presence of cytases and specific fixatives. The cholera vibrios introduced into the anterior chamber club together but remain alive for from four to six days. Metchnikoff, therefore, concludes that, of the two substances necessary to bring about the granular transformation, none are present in the aqueous humor, as is also the case in the fluid of passive edema. He admits, however, a certain bactericidal action of the humor on a similar basis to that exerted by physiological salt solution, etc.

Calmette and Delarde's, and especially Roemer's experiments with a non-bacterial immune serum, the abrin serum, produced by the immunization of rabbits with the extracts of the Paternoster or jequirity beans, have brought forth some interesting and suggestive results. Roemer found that the conjunctiva, as well as the spleen and bone-marow, are the organs where the anti-abrin is to be found in considerable quantities. These organs, as shown by Metchnikoff, are very rich in phagocytes and especially macrophages, which, according to him, play a primary rôle in the excretion of antitoxins in the body fluids, and he expects that this function is not only exercised by the mobile but also the fixed macrophages.

All these newer findings are eminently suggestive and no doubt will lead us to a better understanding of immunity. For the reason already given, closer observation with better instruments of tubercular affections in the eye, should further our knowledge of the most intricate problems, especially those relating to immunity against this disease. I can but regret that I cannot enter more closely into this fascinating subject.

Dr. Albert R. Baker, Cleveland, Ohio:—I have been very much interested in the paper of Dr. Wilder, and I always feel in following Dr. Wilder that there is not much left to be said. Before speaking of what is in my mind I wish to say I had hoped Dr. Klebs would mention the experiments which were made by Otto Bruns with regard to the injection of dead tubercle bacilli into the circulation or blood vessels of the eye, inducing thereby a phlyctenular inflammation of the conjunctiva. We know that the old doctors have recognized, from time immemorial, what is known as phlyctenular ophthalmia as scrofulous ophthalmia, and what was described by the older doctors as scrofula we have found out to be tubercular. But, in this particular disease, I do not know whether we have made much progress or not; but by these injections Bruns was able to produce a disease of the conjunctiva that clinically and microscopically resembled, in the rabbit, phlyctenular ophthalmia. He was not able to get any of these phlyctenules on the cornea, as we find them on the cornea in children. If, however, we can demonstrate that phlyctenular ophthalmia is the result of toxins from a localized tuberculosis in some other portion of the body, we have made some progress in the pathology of this disease. I should like to hear from Dr. Klebs further on that phase of the subject.

With regard to the clinical aspects of this subject my attention has been called many times by pathologists to the frequency with which they have found tubercle in the eye, in which no such diagnosis as tuberculosis was made while the patient was living, and it has seemed to be a reflection on us as oculists. We ought to be able to discover a tubercular lesion in the eye, if it was present; and

yet the difficulties attending these examinations are very great. Let us take, for instance, cases of choroidal miliary tuberculosis. It is rather difficult to examine them in bed under the old methods, but with the improved electric ophthalmoscope it is easy. Within the last two or three years, in two cases I have assisted the general practitioner very materially in making a diagnosis. The question came up whether it was typhoid fever or miliary tuberculosis. I was able to discover miliary tuberculosis of the choroid, and autopsy subsequently corroborated the correctness of the diagnosis.

For a number of years I was connected with our City Hospital, Infirmary, and Insane Asylum in which we had about a thousand inmates. Instead of going to church I spent my Sundays for years in making systematic ophthalmoscopic examinations of these patients. I found among them a great many cases in which we were not able to find evidences of syphilis, but in which there was old choroidal and atrophic patches. In those cases in which there was little or no pigmentation, and not much evidence of other inflammatory trouble of the eye, I put them down as probably tuberculous. We had in this hospital a number of cases of tuberculosis or phthisis pulmonalis, in which we were not able to find tubercular eye trouble. Tubercular iritis was infrequent among these patients in whom we could exclude syphilitic infection.

I had under my observation the case of a medical student who assisted the pathologist in this hospital. During his service there he became infected in some way between the chin and cheek. At first, he thought it was an ordinary furuncle. It refused to get well. Examination microscopically and inoculation experiments in rabbits proved it to be a tubercular infection. It was pretty thoroughly removed and touched with carbolic acid. That has been my treatment after removing the tubercular process, brushing the part with carbolic acid. From this treatment he recovered, but about a year later he developed iritis. There was a solitary tubercle on the upper portion of the iris. The case ran a mild course of ordinary iritis, with recovery, the eye being practically as well as it ever was. There was a posterior synechia where this tubercle was located, only noticeable when the pupil was dilated. A year or two later he had a hemorrhage from the lung and soon developed severe pulmonary tuberculosis.

In that case I was positive that I could exclude any syphilitic infection or any other cause for the iritis. It impressed me with the fact that there were causes of iritis which we regard as idiopathic, but which are really instances of tubercular iritis. Another thing to be remembered is that tubercular iritis does not usually run a severe course; most cases recover. That vitiates the results of the tuberculin treatment. They get well without tuberculin injections, so that we must not attribute all the cures to the treatment.

One method of diagnosis has been suggested which might be followed out, but which I have not tried, that is, removing the aqueous humor and injecting it into the anterior chamber of the eye of a rabbit. That has been done by some Frenchman (Gourfinn), who insists that it should be done in every case. That may aid in making a diagnosis. One other practical suggestion with reference to the treatment of these cases is as to whether we shall enucleate the eye or not. I think statistics show that it is dangerous to enucleate the eye in these cases of tuberculosis unless the eyeball is going to perforate; that is to say, unless the tubercular process progresses so that the eye is going to rupture; if we enucleate the eye we may bring about general infection. Ragman reports two cases of his own that resulted fatally. He says fatal results after enucleation for intraocular tuberculosis are reported in eleven cases, eight times from meningitis, twice from pulmonary phthisis, and once from miliary tuberculosis. In two there were local relapses, which in one instance was followed by death. In six of the cases it is expressly stated that there was good general health at the time of the ocular involvement.

Dr. William E. Gamble:—There is one point I wish to speak of and that is that there seems to be a general lack of appreciation of the difference between Koch's old tuberculin and Koch's tuberculin T. R. as regards their special field of usefulness. Old tuberculin is of value especially in non-pyrexial cases as a

diagnostic agent. New tuberculin is more valuable as a therapeutic agent, since it is less liable to produce systematic reaction, which, at all hazards, should be avoided when used as a therapeutic agent. The new tuberculin produces a local reaction that is diagnostic and in small doses without general reaction, both in pyrexial and non-pyrexial cases. Baer and Kennard in the *Bulletin of the Johns Hopkins Hospital* make the statement that the smallest focus of tuberculosis can be demonstrated by injections of small doses of the tuberculin T. R. For instance, they find that a child has a little stiffness of the back, but have no means of determining what the trouble is until they give a small injection of new tuberculin. The child so treated, in twelve to twenty-four hours, has a stiffening of the muscles of the back and tenderness in that region. They have thereby been enabled to make a diagnosis of beginning tuberculosis. They have tried this in a number of cases and make the statement, in conclusion, to the effect that the smallest focus of tuberculosis can be demonstrated locally by small injections of Koch's tuberculin T. R. They do not count so much on a general reaction and I think the latest workers in this field, among them Wright of London and his coworkers, are believing more and more that a general reaction is of value as a diagnostic measure, but unreliable, especially in pyrexial cases, and absolutely dangerous if repeated as a therapeutic measure. Koch injected himself with 25 mg. of old tuberculin and got a pronounced reaction. It is known that, in some non-tubercular persons, 10 mg. of the old tuberculin will produce reaction. Local reactions are never produced without the focus or foci being tubercular.

I was in hopes that the work of Dr. Wright of London would be brought out in this discussion, because it seems to me he has made a step forward in the solution of this problem, and from his labors we are going to learn how to treat tuberculosis. The essayist made the statement that it is a difficult thing to diagnose these cases of tuberculosis of the eye. If a small dose of tuberculin produces a local reaction, that is, an injection of the vessels at the site of lesion and tenderness on pressure, which was markedly true in the case which I have reported, and we find also a low opsonic index, with increased negative phase following the injection of tuberculin, we have conclusive evidence of the presence of tuberculosis in the suspected tissues, and by the same means, we have a cure in many cases of tuberculosis of the eye, as has been pointed out by the essayist, and also a cure for tuberculosis of the glands and the subcutaneous tissue, as the classical work of Wright has demonstrated.

Dr. Charles H. Beard:—The subject of ocular tuberculosis has already been pretty thoroughly and ably discussed. There are, however, one or two points with regard to tuberculosis of the conjunctiva that I would like to mention. The conjunctiva, when the seat of the disease, offers special opportunities for the study of tuberculosis. This is particularly true as regards the diagnosis, both clinical and experimental. For instance, the secretions from the eye can be examined microscopically. Scrapings can be taken from the membrane, and even portions can be excised for microscopic investigation. True, the results obtained from such examinations are usually negative from a bacteriologic standpoint, and mainly so from an anatomic also. But there is one form of experimental diagnosis of tuberculosis of the conjunctiva which has not been mentioned here tonight, and which is, probably, the least fallible of all methods that we possess. I refer to the inoculation method first applied to the eye by the late Parinaud in 1884. This is based upon the principles of the inoculation of animals laid down by Villemin in 1865, which consists in taking a small particle of the suspected tissue from the eye and inserting it very carefully, and with strict antiseptic precautions, beneath the skin of the abdomen of a rabbit or a guinea-pig, preferably a guinea-pig, because this animal is considered more susceptible or more readily tuberculizable than is the rabbit. After a period of three weeks or a month, if tuberculosis is present, there occurs an inguinal adenopathy. The infected gland is then extirpated and in its center will be found the cheesy degeneration of tubercle, which, when examined microscopically, will show the Koch bacillus. There is another means of experimental diagnosis that has been recently promulgated and that promises to be quite reliable, viz., the agglutination method of

Arloing and Courmont, whereby agglutination is caused in certain cultures of the Koch bacillus by serum that has been extracted from a tuberculous subject. Tuberculosis of the conjunctiva also affords exceptional facilities for treatment, both medical and surgical. For example, topic applications are easily made directly to the part involved; and an excellent surgical measure for the eradication of the disease can be resorted to, viz., excision of the affected portion of the conjunctiva. Of course this can not always be done as the lesion may be too deep or to extensive to admit of it, but when it can be done excision, followed immediately by cauterization, is probably the surest of all means of cure.

Now as to the use of tuberculin. For diagnostic purposes the injection of this substance is extremely unsatisfactory, as we have seen, for the reason that the existence of tuberculosis elsewhere in the organism can not be positively excluded. In the employment, therefore, of tuberculin as a means of diagnosis of ocular tuberculosis, one must set store, not so much by the general effects, such as the rise of temperature, etc., as by the local reactive phenomena. But, as to the treatment of tuberculosis of the eye by injections of tuberculin, it can not be denied that this constitutes a valuable remedy. There is abundant evidence to this effect. Yet, the treatment of experimental tuberculosis in this manner has been far from satisfactory in many quarters. In an exhaustive series of experiments by Baas, for instance, with both tuberculin and the tuberculocidin of the elder Klebs, the disease seemed actually to become more virulent in the animals treated than in those used for control. Schieck has given as an explanation of this that there is a vast distance between experimental tuberculosis and spontaneous tuberculosis. The spontaneous form, particularly as it concerns the eye, is acknowledged by most authorities to be an attenuated infection, whereas, experimental tuberculosis is apt to be very much the contrary; that is, the bacilli are, as a rule, infinitely more numerous in the last. Another effective mode of treatment, peculiarly suited to tuberculosis of the conjunctiva, is that by radiation—either by radium or by the *x*-rays.

Dr. Arnold C. Klebs:—With regard to the Wright method of determination of the opsonic index for guidance in the treatment with tuberculous vaccines, I have not referred to it in my discussion because the whole matter is still in an experimental stage and much too complicated for practical uses.

Dr. Wilder (closing the discussion):—I purposely omitted considering therapeutic means that are applied in these cases of tuberculosis, because of the comparatively limited scope of the paper, and, therefore, the paper makes no claim of being a complete résumé of the subject. The purpose was more to take up the subject in such a general way as to draw attention to some of the newer phases of it, and, particularly, to elicit discussion.

As to the diagnosis of tuberculous lesions of the eye by means of tuberculin and the possible benefit of tuberculin as a therapeutic measure, we must all agree that tuberculin is a diagnostic aid, for at least 95 per cent. of tuberculous animals react to tuberculin. Unquestionably there are certain conditions in the human body where we get reaction with tuberculin, and an individual may be deceived. Furthermore, a negative result is not at all conclusive. As I stated in my paper the whole condition is obscure; if we have a tuberculous lesion elsewhere it makes the presumptive evidence stronger, particularly if we have certain clinical features. It does not give absolute testimony, however, that is valuable, because it does not exclude a focus elsewhere, which may be the primary focus. It has been well determined that most of these cases are secondary.

So far as the treatment is concerned, I did not go into that at all. I think the results are extremely encouraging. If we have opportunities for clinical observation we should look more carefully over the obscure cases of iritis, use the tuberculin test, and, if we get a reaction, try therapeutic means. As Dr. Baker has remarked, the fact that some of these cases of tubercular attenuated iritis have been wholly spontaneous, tends to vitiate the results of our experiments along this line. I want to refer briefly to a case which I now have under observation, and which some time I may have the pleasure of presenting before the society. The patient, a young woman, has interstitial keratitis. I see in the

iris some peculiar nodulation, suggestive of miliary tuberculosis. After taking her temperature for several days and finding it running so and so, with an afternoon rise of one degree, I gave her five to six mg. of tuberculin and got a typical reaction. She has the same condition of the left eye, which looks like a beginning interstitial keratitis, which any one would have said would yield to treatment in from three or four weeks to six months. It cleared up in two or three weeks under yellow oxide of mercury, and there was no opacity. There was spontaneous healing of the left eye. I got a typical tuberculin reaction, and it is a question whether the other eye will heal with tuberculin treatment.

INVOLVEMENT OF THE EYE IN SYPHILIS.

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All of us have seen may syphilitic eye diseases, all of us have treated many; in some we have had brilliant results, in others we have been completely baffled. We have formed convictions on the subject as the result of our experiences. On many points we are, perhaps, in doubt; on others have formed opinions, which may differ somewhat from the prevailing ones. In a paper of this kind, therefore, it may be of more value and more conducive to discussion to hear personal experiences and opinions, even though we may, in part, differ in our views, rather than to listen to a compilation from books, to which we all have access.

An affection commonly found in syphilis, although at the time it may not manifest itself in any way whatsoever, is the endarteritis of lues; other forms of the disease may yield to treatment but the endothelium of the body is never again entirely the same. Manifestly the vitality of tissues supplied by vessels with damaged endothelium and impaired walls suffers; affections due to this impaired vitality may occur years afterwards, when all other active signs of syphilis have disappeared. When we consider the eyeball and its structures, the cornea, with its surrounding zone of capillaries, the iris, consisting largely of endothelium and vascular stroma, the choroid, almost entirely a vascular structure, the retina, with its delicate nervous tissue dependent for nourishment on minute end arteries, we see of what great importance to the future welfare of the eye this fact may be.

Basing our opinion on this pathological factor of the disease, we may divide luetic troubles into two classes: 1. Those lesions of the eye due to direct syphilitic insult; i. e., those lesions brought about by the direct action of the syphilitic toxins on the structures of the eye. 2. Those lesions due to impaired vitality of the tissues caused by former involvement of the endothelium of the vessels nourishing that tissue, this type of lesion being, in reality, not a syphilitic one but rather a post syphilitic one. Bringing this down to more practical terms we have: 1. Those syphilitic eye lesions which we can cure by the employment of proper remedies. 2. Those syphilitic or rather post syphilitic lesions which we cannot cure. The key to the diagnosis between the two lies in the therapeutic test.

The antispecifics act brilliantly in class 1. They have no effect whatever in class 2. This distinction may be made in the eye lesions of both hereditary and acquired syphilis. And so we find, in the interstitial keratitis of hereditary syphilis, two types of the disease. One is promptly benefited by the exhibition of antispecifics, the other is not only not benefited but is positively harmed. Unfortunately, the only method we have of distinguishing between the two types of the disease is by actual therapeutic test. This test should be applied in every case, for in some cases it is undoubtedly of great value, although, in perhaps the majority of cases, it is worse than useless. It should, therefore, be tried tentatively only; as soon as we are convinced that our remedies are doing harm rather than good we should at once stop them and employ roborant and stimulative measures. In these cases, antispecifics are best employed in the form of inunctions, the iodid of potash being given at the same time. That inunctions are by far the most satisfactory and effective way of giving mercury in the treat-

ment of interstitial keratitis has been noted. Probably in the majority of cases of interstitial keratitis antispecifics do no good. There are two causes for this; in one class of cases which are not helped we are dealing with the asthenic or impaired-tissue type, due to damaged blood vessels; in the other class of cases we are dealing with forms of interstitial keratitis which do not rest upon a syphilitic basis at all, but rest upon dyscrasia, due to a cause other than syphilitic.

What proportion of these cases is due to syphilis and what to other causes it is impossible to say with any degree of accuracy. As far as getting any history from the parents is concerned, I think most of us have found it so useless that we have long since ceased even to inquire, so that the only criteria we have as to whether a given case is one of hereditary syphilis or not are the well-known stigmata of that disease: Hutchinson's teeth, ragadæ at the angles of the mouth and nose, impaired hearing, joint involvement, etc., which are, however, by no means positive.

It has seemed to me that the antispecifics act best in those cases of interstitial keratitis where, at the same time, there is a marked involvement of the uveal tract. This, however, is only a matter of opinion, resting upon the observation of comparatively few cases. As has been noted, the only means of determining positively is by actual therapeutic test.

Another form of hereditary ocular syphilis about which our knowledge is far from complete is the pigmentary retinal degeneration, mentioned by Haab, resembling somewhat retinitis pigmentosa and yet very different. It is difficult to say whether the pigment masses originate in the choroid or retina. They do not follow the course of the vessels. They are in diffuse blotches, heaviest at the periphery, usually with a dirty, yellowish tinge. The nerve is white and the vessels are small. Several times I have seen this condition present in cases of interstitial keratitis, so that I feel positive of its relation to hereditary syphilis. I have had four of these cases of pigmentary degeneration at the dispensary of the United Hebrew Charities in the past year. The vision in all of them was very poor. In several I tried antispecific treatment with no effect. In one of them the stigmata of hereditary syphilis were marked; as to the others, I am in doubt. Cases of hereditary syphilis of the eye in which it seems to me the antispecifics are most effective are those where an active choroiditis is taking place. I have such a case now under observation at the dispensary of the United Hebrew Charities, a girl, aged 9, with a saddle nose, ragadæ at the corners of the mouth, traces of an old interstitial keratitis, posterior synechiæ in both eyes, with dense patches of active choroiditis scattered about in the periphery of each choroid.

It would be of interest if we could get some information as to what percentage of the offspring of syphilitics have involvement of the eye. It seems probable that the eye is attacked more than any other organ of the body in these cases, and still it has been surprising to me how comparatively rare I have found the eye involved in the offspring of those whom we know to have been syphilitic. Where I have examined children that I knew were the offspring of syphilitics, tabetics, or those suffering from paretic dementia, I have always recorded the fact in the case history. In looking over my private records I find it recorded there that I have examined fourteen individuals whom I knew to be the offspring of a syphilitic parent or parents, and, strangely enough, in not a single one of these cases could I find an eye involvement which could be attributed to syphilis. One case seemed of especial interest: the father, a syphilitic, died of tabes dorsalis; the mother, after a number of miscarriages, had given birth to seven living children; of these seven, three afterward died. I have examined the eyes of the mother and of each of the four surviving children, the youngest of whom is now 14 years old. The mother has a disseminated choroiditis and other signs of syphilis, and still I could find nothing wrong with the eyes of the children. The percentage of cases of diseases of the eye due to acquired syphilis is, I think, fully as great in private as in clinical practice. The percentage of cases of hereditary syphilitic diseases of the eye is, however, markedly smaller in private practice. The reason of this, in all probability, is that those children of syphilitics who are under good

physical conditions are less apt to have interstitial keratitis than the children of clinical patients who are under less favorable conditions. The more intelligent individuals, moreover, usually undergo a longer and more thorough course of treatment than their less enlightened brethren.

Passing now to the eye diseases occurring in the course of acquired syphilis, one of the first things that strikes us is the infrequency with which we get a clear history in cases that are undoubtedly of syphilitic origin. This is often true, even in the case of really intelligent patients. There are, perhaps, two causes for this. Patients are apt to regard the oculist as somewhat outside the pale of the medical profession, and, therefore, they hesitate to confide in him as freely as in their family practitioner. On the other hand, where doubt exists in the mind of the patient as to the nature of his trouble, as it so frequently does, great blame attaches to the physician who originally treated the case. How frequently have all of us had some such dialogue with a patient! The doctor asks: "Have you ever had syphilis?" The patient, with great positiveness, replies: "Never." The doctor asks a number of questions and finally asks: "Did you ever have a hard sore on the penis?" The patient replies, reflectively: "Well, I believe I did have a sore once, but the doctor burned it and I took some pills and some drops for a few months, but I never had syphilis."

Of course, in all probability the doctor who originally saw the patient intended to treat him more than a few months, but he did not sufficiently impress the gravity of the disease upon him. The patient felt well, his chancre disappeared and he saw no need for further treatment. Just such cases furnish the severe ocular lesions that later come to the notice of the ophthalmologist. Many cases of so-called soft chancre, too, are taken too lightly, judging from the eye complications that are occasionally seen in these cases afterward. Many of us have had this experience in elucidating the history of an eye case, undoubtedly syphilitic, on questioning a patient as to whether he has ever had syphilis. The answer is: "No, I never had syphilis, but I did have a soft chancre once." Then, too, judging from the oculist's experience, the initial lesion and the secondary symptoms at times must be so slight as to entirely escape observation, for many of us have run across cases where the patient suspects and is willing to confess that he has lues, but, in all truth, has not the faintest idea when or how he acquired it.

Not long ago I saw a patient, a man 33 years old, who had a mydriasis of the left eye. The optic nerve head was blurred and the retinal vessels very tortuous. He was an intelligent man, perfectly frank, was willing to confess that he had been exposed more times than he had hairs on his head, that he had had gonorrhea countless times, was perfectly ready to acknowledge the possibility, even the probability, of syphilis, but how or when he was utterly ignorant, and still his symptoms yielded promptly to vigorous antispecific treatment, although up to that time everything had been tried in vain. We have, then, this element of obscurity constantly to contend with. Often the therapeutic test assists us brilliantly. Often, however, we are dealing with postsyphilitic vessel and tissue changes, where antispecific remedies leave us in the lurch and we never can be entirely clear as to the diagnosis.

Many practitioners expect too much of the oculist. They think he need but look at a case, and from its clinical aspect he can at once announce whether a given case of iritis is syphilitic or rheumatic, whether a retinitis is due to Bright's disease, diabetes or syphilis, whether a papillitis is due to brain tumor or lues. It is true the toxins of certain diseases have their points of predilection, but when we remember that almost all eye involvements, whether due to Bright's disease, lues, diabetes or what not, are primarily caused by damaged blood vessels, there must necessarily be a certain clinical resemblance between various manifestations of disease in the eye, even though due to entirely different causes, it being only possible to determine the cause when all the evidence and clinical findings have been carefully weighed and sifted. So, as a rule, the iritis of syphilis is merely a serous or plastic inflammation of that structure which, clinically, differs no whit from the iritis of Bright's disease or rheumatism, and it is only in the rarest cases that we see the characteristic iritis condylomatosa. This is true of

inflammations of the retina, optic nerve and other structures, although involvement of the choroid, unless in cases of high degree of myopia, is always to be viewed with the greatest suspicion.

Too often it becomes the reproach of the oculist that he is only a specialist and not a physician, that he observes only the eye and forgets that there are other organs in the body. A case was seen some time ago illustrating this fact. A Milwaukee colleague had treated a case of iritis, due to Bright's disease, to the point of ptyalism, although the patient had never had syphilis, and no urinalysis whatever had been made.

Syphilis attacks every portion of the eye. Even the lens, which for a time was thought immune, does not seem to be so in the light of recent reports. Syphilis simulates almost every eye disease or tumor. Bearing this fact in mind will often help us when we are in doubt. At St. Mary's Hospital I recently saw a young lady of unblemished antecedents with an enormously thickened upper lid, which hung down completely over the eyeball; the infiltrated cartilage could be felt pushing into the orbit. On everting the lid with great difficulty, the cartilage was seen to be a huge, yellowish, translucent nodular mass. She had come quite prepared for operation, but she had the good sense to prefer the unpalatable truth to a more unpalatable operation, and the consequence is that that case of syphilitic tarsitis is doing nicely, under appropriate treatment, at the hands of one of the attending men of that institution.

A symptom which must arouse suspicion of syphilis, and which is, perhaps, at times overlooked, is a persistent non-inflammatory edema of the lids, where no other cause, such as a kidney lesion, disturbance in the nose, etc., can be found. I do not mean the intermittent, angioneurotic edema, the blepharocalasis of Fuchs, but those persistent non-inflammatory edemas which are caused, as Neese has shown, by gummatous infiltration of the lid. I have reported one such case and have seen a similar one since.

Tumors of the orbit, especially those in connection with the periosteum, should always, before operative measures are employed, in case of the least doubt, be thoroughly tested by means of antisyphilitic remedies. I remember one such case in a middle-aged lady where there was no reason to suspect syphilis, unless, perhaps, because her husband had had a tabes. Here a dense elastic tumor, apparently in connection with the periosteum and large enough to displace the eyeball, could be felt at the upper inner portion of the orbit. This tumor entirely disappeared on the exhibition of iodids and mercury, and, though this was a number of years ago, it has never recurred. Of the ocular palsies and primary optic atrophies occurring either in the course of a tabes or a paretic dementia, we can say with absolute positiveness that they are never helped by the use of antispecifics, but, on the contrary, are always harmed. There is no way in which we can hurry these patients down hill faster than to fill them full of antisyphilitic remedies. Probably nothing that we can employ works any permanent benefit, but if something must be given it should be roborant and stimulating rather than antisyphilitic remedies. These diseases, with their manifestations, are to be ranked with the postsyphilitic troubles, and here, as in all other postsyphilitic troubles, mercury and the iodids are worse than useless.

It is of interest to consider whether the prognosis in operative procedures on syphilitics is much worse than on nonsyphilitics. In two cases (four eyes) I have done iridectomies for chronic recurring iritis where antispecific remedies had done no good. I can not say that I saw any startling benefit follow any of these operations. Perhaps the trouble in most of these cases is that there are posterior synechiæ. When we attempt to seize the iris we merely tear off the anterior layer, leaving the pigment layer adhering to the capsule, so that in reality we do not accomplish an iridectomy at all. In four cases I have done cataract extractions on individuals whom I knew to be syphilitic. Two of these cases did not turn out well. One of them, a patient at the County Hospital, stood the preliminary iridectomy well, but a severe iritis followed the extraction, through which the patient lost sight in the eye completely. In one other of these cases an iritis followed the operation, so that the final outcome was poor. In

the other two cases the result was a good one. It is an excellent plan to precede the operation by a course of antisyphilitic treatment, even though no active signs of syphilis are or have been present.

I have never seen it mentioned in the literature or textbooks, out I do think there is some relation between lues and those cases of idiopathic ectropium where we find the tarsal cartilage thickened and distorted. Undoubtedly in these cases there has been a tarsitis, perhaps not severe enough to cause thickening and distortion of the lid at the time. The condition being, moreover, a painless one, the patient does not pay any attention to the matter until deformity sets in. I have examined sections of a number of such cartilages under the microscope and have found them diffusely infiltrated with round cells and full of areas of degeneration, either hyaline or colloid. From the microscopic examination it was impossible to state positively the cause of the trouble, but I have always suspected it was syphilitic. Occasionally in syphilitics we see retinal lesions undoubtedly of nephritic rather than luetic origin. It would be strange indeed if syphilitics were not more prone to kidney lesions than individuals with healthy blood vessels. In these cases antisyphilitic treatment is to be entered upon with the greatest caution, as it is more likely to harm than to benefit.

The treatment of syphilitic eye lesions consists of the exhibitions of remedies which combat the systemic infection, combined with such local treatment as the occasion calls for. In regard to local measures there is not much to be said. Where iritis is present we strive, by the use of atropin, to put that membrane at rest. For a while subconjunctival injections of bichlorid of mercury were the fad, but they were intensely painful, created a tremendous reaction and did not seem of especial benefit, so that they have been pretty generally abandoned. Still, in those obstinate cases where nothing else avails, perhaps they are worthy of a trial. I have tried them where they have seemed to be of undoubted benefit. Where the iris dilates with great difficulty I have found it very useful to employ the pure atropin sulphate in the eye. As much as can be held on the point of a small knife blade is placed in the conjunctival sac, great care being taken to hold the lachrymal passages shut with the finger, so as to prevent atropin intoxication. If this is not effective, then I know nothing that will avail. In the lesions of the choroid, retina, optic nerve, etc., our whole reliance must be placed on systemic treatment. Here the ophthalmologist is very prone to make a mistake. As a rule he sees the late lesions of syphilis and is, therefore, very apt to exhibit iodid of potash alone, to the utter neglect of the mercurials. This I believe to be a mistake. Where there is an involvement of the eye which is caused by direct syphilitic insult, irrespective of the stage of the disease, mercury in some form should always be employed, and the more critical the condition the greater the indication for its employment. We should never rely upon the iodids alone. The two can be used very nicely together, the mercury in the form of inunctions or injections, the iodids per os.

The two forms in which the mercury can be used most effectively are either in the form of inunctions or injections. In critical cases to give mercury per os is, I think, a mistake. Eye lesions in that respect are on a par with brain lesions. Every day, every hour, they do irreparable injury. Probably in these urgent cases the best way of giving mercury is in the form of injections. A preparation that has done me good service is the salycilate of mercury, suspended either in albolene or benzoinol, injected deep into the gluteal muscles, so that the patient receives about one grain of the drug every four days. I have used this treatment repeatedly and have never had an abscess follow an injection. The treatment is, however, very painful, and it is quite pathetic to see these patients limp away after a treatment, so that in ordinary cases the inunctions are to be preferred. In clinical work, however, where we are dealing with the ignorant and careless, the injections are more effective and can be better controlled. Inunctions to be effective must be rubbed into the skin from twenty minutes to one-half hour. Clinical patients have hardly the patience or the intelligence to do this. When, however, the physician injects the drug he knows exactly what the patient is getting.

In administering iodids I have found it neither necessary nor expedient to give the enormous doses which some advocate. It is a good plan to be guided as to the size of the dose by what the patient can take without too great a degree of discomfort. Where the patient has an idiosyncrasy against the iodid of potash I have used the iodonucleoid or injections of iodipin, 25 per cent. strength, with good results. To recapitulate the contents of this paper:

1. In syphilitics we must distinguish between two classes of lesions, the syphilitic and the postsyphilitic. 2. The syphilitic lesions are helped by antispecifics; the postsyphilitic ones, on the other hand, are rather injured. 3. This distinction holds good in hereditary syphilis. 4. In a large proportion of syphilitic eye diseases the history and clinical aspect are more or less obscure and must be elucidated by careful investigation of the complete clinical aspect of the case and the therapeutic test. 5. Syphilitic eye diseases simulate almost all other eye diseases and ocular tumors. This fact must always be borne in mind in entering upon the treatment of a suspicious case or the operation of a suspicious tumor. 6. Antispecific remedies are useless in the treatment of the ocular manifestations of the postsyphilitic nervous diseases. 7. Eye operations upon syphilitics have a more unfavorable prognosis than upon the non-syphilitic. 8. Syphilitics are prone to kidneys lesions, which may cause retinal lesions, which have only an indirect causal relation to the lues and are, therefore, not benefited by antispecifics. 9. The treatment of syphilitic eye lesions consists of proper local treatment, with appropriate systemic medication. This consists of the use of mercury and iodid of potash, the mercury being best given by means of inunctions and injections and being always indicated in every stage of luetic eye lesion that is due to a direct syphilitic insult.

DISCUSSION.

Dr. Oliver S. Ormsby was asked to open the discussion. He said: I was much interested in the paper of Dr. Snydacker, not, however, from the standpoint of the oculist, but from the viewpoint of the dermatologist. There is no subject that is so interesting to the dermatologist as syphilis, because of its many cutaneous manifestations. I shall confine what I have to say, inasmuch as my time is limited to five minutes, to a few points in connection with the diagnosis. As I have had the opportunity on several occasions to examine cases with eye lesions in which syphilis was suspected, I shall try to review a few of the important points which are aids to diagnosis.

As Dr. Syndacker says, the history given by the patient is usually not of much value. So much apparent deceit has been practiced by these patients that it was once said that all syphilitics are liars. This is far from true, and though their history as given might deceive the physician it is not intentionally done. The discrepancies are due to ignorance of the conditions on the part of the patient or to his misinterpretation of what he sees, and also to his forgetfulness. The initial lesion may have been extragenital or intraurethral, and hence escaped notice, and the patient is consequently deceived. Extragenital chancres may attack the eye structures. Two such cases were reported last year. Dr. Mewborn, of New York, reported the case of a patient having a chancre on the eyelid which had developed in the area occupied by a stye. The stye was treated with silver nitrate, as well as copper sulphate sticks, and Dr. Mewborn believes the infection was carried in this way. The patient developed preauricular adenopathy and later the eruption and the usual symptoms of syphilis.

Again, relative to the patient's history, the secondary manifestations may be so mild as to escape the attention of the patient, or he may misinterpret them without any fault on his part. The examination of the patient, however, often reveals a history that is most important. There are stigmata of both hereditary and acquired syphilis that will help in making an accurate diagnosis of syphilis. Several of the important signs occurring in the hereditary form were mentioned by the essayist, among which are the linear scars about the corners of the mouth, scars about the ano-genital region, the peculiar deformity of the nose, changes in the bones of the skull, nodosities, irregularities, etc., and changes in the long bones, especially the tibiæ. Hutchinson's triad—interstitial keratitis, notched

teeth and ear disease—is, perhaps, not so important as was once thought. If, however, several of these stigmata be found, syphilis must be considered. In the acquired form it is often difficult to positively demonstrate the presence of specific disease.

Syphilis is one of the diseases characterized by latent periods, increasing in duration as time passes. The bacteriology of the disease, not having been settled, is at present of no absolute value to us in diagnosis. I expected to hear Dr. Schmidt speak on that phase of the subject to-night, but, unfortunately, he is not present. During the past year much laboratory work has been done on the bacteriology of syphilis. The most prominent place has been given the spirochæta pallida, which is a spirillum about one-half a micron in width and three and one-half microns in length. This has repeatedly been found in the initial lesion, often in the secondary lesions and occasionally in the late lesions, as well also in the internal organs in congenital syphilis. A very small protozoön with flagella, the cytorrhyctes lues, has also received much attention. For a long time investigators in the field have believed that when the active cause of syphilis was found it would be a protozoön, so this organism is especially interesting. It has been suggested that the spirochæta pallida might be merely a stage in the life history of some protozoön. The microscopic anatomy, too, is not conclusive in all cases, as a similar condition may be found in other disorders, so that to-day we have still to rely largely on the clinical findings.

Some of the important points in this investigation in the acquired form are the following: One examines for relics of the initial sclerosis, and if a scar is found in the site formerly occupied by a venereal sore it is of value; but in this connection it must be remembered that soft, non-specific lesions which have been cauterized leave scars. Glandular enlargement, taken in connection with other findings, is of value, but at the moment of examination there may be simply slight fusiform enlargement, the main part of the former increase having been absorbed by the degenerative and absorptive processes which occur on subsidence of the active symptoms. Careful search should be made about the ano-genital region for recurring mucous patches, condylomatous lesions or scars. The mouth and tongue, too, are favorite sites for mucous patches even late, as well as fissures, scars and other irregularities. Pigmentations, the sequelæ of former lesions, as well as scars on the skin, should be sought for. On account of the peculiar history of this interesting disease, with its periods of latency, it seems justifiable to think that the entire human organism is invaded early in the disease, the chancre being the infection atrium and the first visible lesion, after which follow the generalized secondary manifestations, due to general dissemination of the active virus, and finally the deposit of this virus in various parts of the body, to lie inactive until again aroused into activity by some local external or other irritant, producing the localized deeper lesions of the late stages.

Periostitis, especially of the long bones, is important, but one must remember that though this ordinarily occurs late, it may be a very early manifestation. One or even two or three of these various signs would not settle the question, but if in a given case with suspected syphilis of the eye one finds several of the lesions or stigmata on the skin, mucous membranes and bones, we would have sufficient presumptive evidence to make a diagnosis of syphilis. The symptoms produced by postsyphilitic lesions, whether in the eye or elsewhere, will not be benefited by specific treatment. I mean by postsyphilitic those that conform to the essayist's definition. In these, actual destruction of tissue which can not be restored has occurred.

Dr. Frank Hugh Montgomery:—I did not come here prepared to say anything. However, the topic is an interesting one, and both papers have interested me greatly. Two or three points occur to me. One is the question of the frequency of conjunctival tuberculosis by primary inoculation. Dr. Syndacker referred to the percentage. In Copenhagen, when I was there two years ago, from a careful study of nearly 1,000 cases it was shown that from 60 to 70 per cent. of all cases of lupus vulgaris originated within the nose. That being the case, it would make the number of cases of primary tuberculosis of the conjunctiva very much smaller

than he has given it. Regarding the treatment of syphilis, I agree heartily with the stand taken by the writer of the paper, who has expressed himself as being strongly in favor of the mercurial treatment of all eye lesions and against the use of the iodids. I think it is a common mistake on the part of many practitioners to treat these cases with iodids.

In regard to the diagnosis, there are a few features to be remembered. We frequently find lesions on the soft or hard palate, the border of the tongue, or in some part of the mouth there are mucous patches or a beginning leukoplakia. We find similar lesions about the nose. We have also the other manifestations referred to by Dr. Ormsby. As to the history in these cases, it is one of the most difficult things we have to contend with, whether we view it from the standpoint of an oculist, neurologist or dermatologist. A patient comes to us who has been infected and wants treatment for a disorder which either the physician has failed to diagnose accurately or which, having made a correct diagnosis, he treats by the rapid method, by an occasional visit on the part of the patient to some springs, by vigorous treatment for a short period, and then stopping treatment for a longer period, or, as Dr. Snydacker has said, after a certain period the patient will neglect treatment. The most dangerous period in a syphilitic during the first two years is that period when he feels well, so well that he does not know that there is anything wrong with him, unless the practitioner has warned him forcibly of the possible dangers. That is the time when he is apt to forget or come to the conclusion that his physician has made a mistake. If at that time he consults an expert who neglects symptoms and treatment, he may get an opinion that he has not syphilis. It is easy to get conflicting opinions in regard to such a case. There are cases in which the primary manifestations of syphilis are never seen, even if we watch for them; the papular manifestations are very slight. No definite symptoms on the teeth are present until we get the deeper-seated or tertiary lesions, so that one of the most difficult tasks we have to undertake is this careful sifting out of the ills and of getting a clear history of the disease. In syphilitic and postsyphilitic diseases of the eye and other lesions there is no sharp dividing line which can be drawn between them.

A joint meeting of the Chicago Surgical and Chicago Medical societies was held Feb. 26, 1906. The Vice-President of the Chicago Surgical Society, Dr. D. W. Graham, in the chair.

The subject for discussion was a symposium on "Ileus." Dr. J. M. T. Finney of Baltimore, Maryland, read a paper, by invitation, entitled "Post-Operative Intestinal Obstruction."

The author detailed twenty-six cases, referred at length to the literature, and drew the following conclusions: 1. Broca's classification into early and late varieties simplifies the diagnosis. In the former class, which so frequently is associated with peritonitis, the differential diagnosis as to variety is always difficult and often impossible. In the latter, which is composed almost exclusively of the mechanical forms, it is usually easy. 2. Adhesions are the chief factor to be reckoned with in an attempt to prevent the occurrence of post-operative ileus, and efforts directed toward this end are likely to be productive of the best results. 3. That drainage exercises a marked influence in the production of adhesions cannot be denied. 4. As to treatment, prompt operation is indicated in every case, after palliative measures have been given a fair trial and have failed. The character of the operation depends on the nature of the obstruction and the condition of the patient. 5. The prognosis is unfavorably influenced by the presence of infection. In its absence, it is excellent.

DYNAMIC ILEUS.

Dr. John B. Murphy defined ileus as a train of symptoms consisting of four essential elements, one or the other preponderating in its influence. First, pain in the abdomen; second, nausea and vomiting; third, meteorismus; and, fourth, coprostasis. Using this as a guide he subdivided ileus into three great divisions,

adynamic ileus, dynamic ileus, and mechanic ileus. Under adynamic ileus he includes all of the conditions that are due to the absence of power of propulsion. Under dynamic ileus he includes two conditions where obstruction is due to an excess of power, and excessive contraction of the muscular wall. Under mechanic ileus he includes all the mechanical conditions, whether of the strangulation or obturation variety, which impede the advancement of the contents of the intestinal canal in a mechanical way. In the removal of tumors from the mesentery, as fibromata, myomata, lipomata, tumors of that class, if the greatest care is not exercised in separating the mesentery from the tumors, and in ligating the blood vessels or nerves of the mesentery, it will be followed by paralytic ileus, which may lead to a fatal termination. The cases which puzzle the general practitioner and surgeon are those included under adynamic ileus. One of the first causes of this form of ileus is strangulation of the omentum. The general practitioner is called to treat a case of strangulated omentum, with pain, absence of peristalsis, distention of the abdomen, nausea and vomiting, and coprostasis, or inability to get a bowel movement. Every surgeon has been confronted with such cases, where, within the first forty-eight hours, illness comes on, with evidence of obstruction in the lumen of the bowel of mechanical origin, and examination and laparotomy showed that there was nothing whatever in the hernial canal but a portion of omentum. Strangulation of the omentum produces a reflex paralysis of peristalsis.

As to hepatic calculus, the colic that occurs with it is difficult to differentiate from mechanical obstruction, because we have pain, nausea and vomiting, absence of peristalsis, with distention of the bowel coming on as the result of the paralytic condition; also coprostasis while the pain is severe. One of the very difficult things to diagnose differentially is the impaction of stone in the cystic duct. There is another class of cases in which the manifestations of ileus are pronounced from the ligation of the pedicles. He thinks since the practice of ligating pedicles *en masse* has ceased, there is much less vomiting after operations and fewer cases of paralytic ileus now than formerly. Gastric tetany is another form of paralytic ileus that is mistaken for intestinal obstruction. Peritoneal trauma is a cause of paralytic ileus. The embolic type of paralytic ileus is due to two causes: First, interference with the nerve supply; second, ischemia. Temperature is never a primary symptom in mechanical ileus, not even in intussusception in children. He thought at one time that leucocytosis was going to be of enormous value in the differential diagnosis. He believed that the infective type would show a high leucocyte count, while the mechanical type would show a low leucocyte count. He had been greatly disappointed. He has seen a 36,000 leucocyte count (differential) in mechanical ileus. He has seen a 7,000 leucocyte count in a case of septic peritonitis, so that he has ceased to place any particular value on the differential diagnosis as to the number of leucocytes.

STRANGULATION ILEUS.

Dr. Arthur Dean Bevan said that strangulation ileus is best studied from the standpoint of a strangulated hernia. It is a form of ileus which comes on as a strangulated hernia does, with sudden onset, with shock, with pain, with obstruction of the bowel, with vomiting, with later tympany, and, if unrelieved, peritonitis usually, and death. It is at the beginning free from temperature. The diagnosis can be made early if the surgeon has a clear mental picture of what strangulation ileus means. It means such a condition as this within the abdomen: A loop of intestine is strangulated, as a loop of intestine is strangulated in the scrotum; this very soon becomes paralyzed and distended. There is in almost all cases of strangulation ileus a period at which, if the loop of intestine is of fair size and the abdominal wall not too thick, the strangulated loop can be determined by the local distention and the absence of peristalsis. At the same time, in strangulated ileus, there is not a paralysis of the afferent bowel, but the afferent bowel makes a great effort to overcome the obstruction, in that way causing pain, symptoms of peristalsis sometimes visible, and invariably the passage or rumbling of gas which can be heard with the stetho-

scope. If we have that mental picture in mind we can usually, if the case is seen early, make an accurate diagnosis, and that means everything to the patient. It means immediate operation. Dr. Bevan discussed the character of the operation and the conditions found as the cause of mechanical ileus when the abdomen is opened. Meckel's diverticulum is the cause of probably more than 5 per cent. of the cases of intestinal obstruction. A long appendix, or adhesions to a tube may cause obstruction. A most common cause is probably volvulus. He recently saw a case of volvulus of the entire transverse colon which caused obstruction. The forms of ileus which are described as due to strangulation in the retroperitoneal fossæ are quite infrequent. They do occur, however, and must be kept in mind. Cases occurring in the intersigmoid fossa, in the pericecal fossæ, in the duodenal fossæ, in the foramen of Winslow, are rather rare surgical curiosities, and he does not think anyone has had any considerable experience with strangulation due to hernias of this type. The proper treatment of a case of strangulation ileus by the medical man is the making of an immediate diagnosis, and then urging immediate operation. Patients with mechanical ileus die because an early diagnosis is not made, because early operation was not done, but early diagnosis and early operation would have saved life.

OBTURATION ILEUS.

Dr. William E. Schroeder mentioned the classification of Schlange, who considers obturation ileus, in its broadest sense, to include compression from without, strictures, both benign and malignant tumors in the lumen of the intestine, intussusception, and the usual obturation forms, namely, from gall-stones, enteroliths, foreign bodies, and fecal masses. The nature of the obstruction consists in the simple closure of the lumen of the intestine, either primarily from within, or through compression from without. Obturation ileus is sometimes produced by an intussusception. The ileocecal valve is by far the most common seat for this lesion. Then follows the small intestine, and lastly, the colon. The length of the intussusception may vary from a small piece to many feet. Thus, Schlange observed a case of the ileocecal variety where the valve presented itself beyond the anus. The invagination of the large intestine usually occurs in the sigmoid. He discussed the symptoms of the acute forms of obturation ileus, also the diagnosis.

With reference to treatment, in obturation ileus, enterostomy is of especial value in relieving the intestine of its poisonous contents, and because of the simplicity of the operation. A radical operation may follow at some future time when the patient is in better condition. In strangulation ileus it is necessary to relieve the strangulated intestine and save it from gangrene, or to resect the gangrenous portion. In general, it may be said that the cases of ileus come into the hands of the surgeon much too late. Many general practitioners wait for fecal vomiting before they transfer the case to the surgeon.

ABUSE OF CATHARTICS IN OBSTRUCTION OF THE BOWELS.

Dr. M. L. Harris recently saw a patient suffering from a strangulated inguinal hernia, with an enormous abdomen, and vomiting every few minutes, who was still trying to get his physic down between vomits, and another patient with acute appendicitis, where the attendant wondered why no result followed the cathartics, in which an operation disclosed a very large opening in the cecum left by the sloughing-off of the appendix, and through which the intestinal contents, chased by the cathartics, had escaped into the abdominal cavity. Numerous other cases illustrating all the varieties of intestinal obstruction were mentioned. Whenever the bowels are incapable of acting by reason of any of the obstructing causes, cathartics, by stimulating in vain the peristalsis of, and increasing the amount of fluid in, the proximal portion of the bowel, favor intestinal putrefaction with absorption of toxic products; cause a reverse flow of foul offensive fluid into the stomach, with the production of exhausting vomiting; so damage the bowel immediately cephalad to the obstruction as to favor the migration of microbes into and through its walls; increase an intussusception; hasten the cutting through of a constricting band or ring; aid in the extension of paralysis; facilitate the

dissemination of infection; and, in fact, do infinitely more harm in less time than could possibly have resulted from the primary trouble had it been left undisturbed. These facts, which rest on sound reasoning, accurate pathology and clinical experience, cannot be too strongly emphasized. Cathartics should never be given to a patient suffering from an acute abdominal trouble until a diagnosis has been made, or, if not an accurate diagnosis, at least until all of the conditions which may produce obstruction have been positively excluded. It should be remembered that these patients are never sick because the bowels do not move, but the bowels do not move because they are sick.

In the general discussion Dr. Fernand Henrotin said, with reference to diagnosis, that there are many cases in which catharsis is given when the diagnosis is not clear, where the symptoms are not typical, so as to render the making of an accurate diagnosis more easy, and in such instances the administration of a cathartic is permissible. As to enterostomy, in a paper on its value written seventeen or eighteen years ago, he dwelt on the propriety, in cases of ileus, of not stopping to do a radical operation in the advanced cases, but simply performing an enterostomy.

Dr. Finney, in closing, said the plea of Dr. Harris to lessen the number of cathartics given to these suffering patients is very timely. Surgeons are agreed that cathartics have a very limited place, but their administration should not be overdone.

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY.

A regular meeting was held Feb. 13, 1906, with the president, Dr. Otto T. Freer, in the chair. Dr. Herman Stolte, of Milwaukee, Wis., read a paper entitled "Does Denker's Radical Operation of the Antrum of Highmore Represent a Progress in the Surgery of the Sinuses?"

DOES DENKER'S RADICAL OPERATION OF THE ANTRUM OF HIGHMORE REPRESENT A PROGRESS IN SURGERY OF THE SINUSES?

DR. HERMAN STOLTE,

MILWAUKEE, WIS.

Every nasal surgeon, who has often had to deal with surgical operations of chronic empyema of the antrum of Highmore, knows that the radical operations advised by Boeninghaus (*Archiv. fuer Laryngologie*, vol. vi, 1892) and Luc-Caldwell ("1900 Lecons sur les Suppurations de l'Oreille Moyenne"), which were looked upon up to the present time as radical operations—that is to say, as operations that would lead in a comparatively short time to a lasting cure—have not always given satisfactory and lasting results. These facts are due to four reasons:

1. In resecting the facial wall (canine fossa) of the antrum, according to Luc or Boeninghaus, it is with considerable difficulty that we are able to evacuate thoroughly all the diseased tissue from the anterior inner angle of the cavity, curetting through the hole made in the canine fossa. This portion of the antrum, owing to the deep alveolar grooves and their strongly projecting bony ridges being the seat of most extensive pathologic changes, large masses of granulations, polypous tissue, necrotic bone, etc., will produce an abundance of granulation tissue with suppuration, interfering with the normal course of the healing process.

2. The permanent opening in the lower external wall, which we are obliged to make in this operation, does not, as we all know, involve the more anterior portion of the nasal wall, owing to the difficulty in getting to these parts with our cutting instruments through the opening in the canine fossa. In the same manner the most posterior part of the lateral wall of the lower middle meatus, on which we preserve the attached posterior part of the lower turbinated body, is usually not removed. On its anterior border remains hanging or attached a portion of the mucous membrane lining the middle part of the wall, through which the permanent opening into the nose is made. This flap, if not thoroughly removed, is apt to be turned inward by the following tamponade and placed toward the

posterior inner angle of the antrum, forming here a kind of blind sac, closing up this corner from the chief cavity and causing here a new source of suppuration. These remaining parts of the nasal wall of the antrum, anteriorly and posteriorly, projecting into the nares like a stage side wing, prevent, during after-treatment, a free view of the antrum and control of the healing process, consisting in the application of nitrate of silver to the new formation of granulation tissue, especially in the anterior and posterior inner angle, and a thorough irrigation of the cavity. Hence we fight in vain against a constantly renewing and obstinate suppuration, which lengthens unnecessarily the duration of the after-treatment and prepares the ground for recurrence.

3. The floor of the antrum, especially in its anterior corner, with its marked pathologic changes, needs an especially thorough evacuation of all diseased parts. Hence these parts showing, after operation, bare bone without any lining, require a long time to be covered again with a healthy lining, and are, therefore, during that time, subject to suppuration.

4. The artificial opening to the nose, due to its location far back and due to the posterior part of the nasal wall, and the remainders of the mucous membrane wall attached to it, has a great tendency to grow smaller and smaller and in time close up almost entirely, leaving a fistula, which will certainly produce a recurrence in the same manner as in Luc-Ogston's frontal sinus operation. Several attempts have been made to improve Luc's method and to overcome some of the difficulties in this operation. Boeninghaus advocated the formation of a mucous membrane flap, formed out of the lower nasal wall, in order to cover the floor of the antrum, hence shortening the healing process. His method of obtaining this flap through the facial opening, by first breaking down the bony internal antral wall from the mucous membrane, makes it extremely difficult to obtain the desirable unlacerated flap.

Dr. P. L. Friedrich,[1] in order to overcome the difficulties in dealing with the anterior inner angle of the antrum, advocated the open method, which consists in making a curved incision in the groove of the ala nasi, and from the middle of this incision a perpendicular one running outward and downward, half an inch in length. Then resection of the bony junction of the nasal and facial wall of the superior maxillary bone around the aperture pyriformis outward, continuing into the canine fossa, posteriorly continuing to the anterior portion of the nasal wall. Eventually, also, resecting the anterior portion of the lower turbinal. After a careful suturing of the external wound the author claims to have no visible scars or other facial disfigurements. The principal objections to this operation are the possibility of visible scars due to the liability of secondary infection and the insufficient access to all parts of the cavity through the comparatively small opening. Kretchman[2] attacked the anterior inner angle of the antrum by extending the gingival labial incision from the second molar to the frenulum labii superioris, adding two rectangular small incisions on either side and upward, then exposure of the facial antral wall, extending to the aperatura pyriformis, then detaching the mucous membrane of the nasal floor, and external nasal wall of the lower meatus, beginning at the apertura pyriformis, inserting afterward a strip of gauze between the detached mucous membrane and the nasal wall, then resection of that part of the nasal wall corresponding with the lower meatus, thereby preserving the most anterior portion. The formation of the flap out of the detached mucous membrane of the lower meatus, and placing this on the floor of the antrum and fixing it by means of a firm tampon inserted through the nose, completes the operation. Kretchman does not sacrifice the lower turbinal on account of its important physiologic functions and does not close the oral wound in order to facilitate the after-treatment. Healing of the wound and restoration of the antral cavity to a healthy condition takes place in about six weeks. Kretschman, profiting by Friedrich's experience, that no disfigurement may occur, even by sacrificing the bony boundary of the apertura pyriformis, recommends for the

1. Deutsch. Med. Woch., 1904, No. 37.
2. Munch. med. Woch., 1905, No. 1.

future operation the complete removal even of this part. One year later Professor Denker, of Erlangen,[3] put in practice this idea of Kretschman. His method, varying in several principal points from Kretschman's method, represents a combination of Boeninghaus', Luc's, Friedrich's and Kretschman's methods, uniting in one method all the conspicuously advantageous points of each. Mucous membrane incision is immediately below the gingival labial fold, beginning from above the second molar and extending to within one-fifth of an inch of the frenulum labii, then running one-third of an inch upward. The soft parts, including the periosteum, are then lifted upward by means of an elevator, the bone being laid bare, including the apertura pyriformis. The mucous membrane of the lower meatus (lateral wall and outer part of the floor), beginning on the very edge of the apertura pyriformis and extending back one and one-half inches, is then lifted up by means of a bent blunt elevator. A small strip of gauze is inserted between the mucous membrane and the bony lateral nasal wall. The resection of the facial wall is then carried out to such an extent that a perfectly free view of all parts of the cavity is secured and digital exploration is possible. After thorough removal of the diseased lining and morbid contents of the antrum by curettement, especially along the floor, excluding the healthy, simply thickened parts of the lining, the resection of the nasal wall of the antrum is carried out, beginning on the lower and lateral edge of the apertura pyriformis, in a backward direction and by means of a chisel and bone forceps. If the pathologic changes in the antrum are very pronounced and the ethmoidal cells and sphenoidal sinus are also affected, the resection should be extended into the infundibulum, following by curettement and opening of the affected sinuses. The lower turbinated body having been resected in its anterior two-thirds as a preliminary operation, especially when it is strongly developed, especial stress should be laid upon the fact that every particle of the bony ridge between the floor and the antrum and the lower meatus be chisled or bitten away, so that a perfectly smooth surface results. From the detached mucous membrane wall of the lower meatus Denker forms a rectangular flap, one and one-quarter inches long and one-half inch high, or higher in case the bony wall has been removed up to the infundibulum. The flap starts just behind the ali nasi. The flap thus formed is then turned over into the antral cavity and fixed upon the perfectly denuded floor by inserting gauze tampons through the nasal opening. The exact closure of the oral wound by suture finishes the operation. The packing is removed in four or five days through the nose without any pain or discomfort. This is followed by daily repeated washing of the cavity with normal salt solution by means of a big catheter abruptly bent, or by means of a soft rubber bulb, the tip being inserted directly into the cavity. The ease of the after-treatment is the most striking feature in Denker's operation. The patient is practically independent of the physician after the packing has been removed, a point apt to be of some importance in dealing with out-of-town patients or patients whose time is limited. There is no painful removal of the packing or daily removing of the latter, as the permanent opening is so large that the patient himself can insert the tip of the rubber bulb into the cavity with the greatest ease, and is able to cleanse it with the current of the solution, every part of the cavity, as the floor of the lower meatus is continuous with the mucous membrane of the new-formed lining of the antral floor, thus representing one smooth surface devoid of any projections of bare bone (as in Luc's operation); the pain during the after-treatments, like in Luc's operation, is excluded. Immediate closure of the oral wound, which heals permanently after four or five days, is a great improvement over the open treatment of Kretschman through the mouth cavity, with its danger of irritation and reinfection. The greatest advantage of this operation is that it gives us the large nasal opening far in front, so that we are able to control the posterior half of the cavity with our eye; the anterior one-half with a small rhinoscopic mirror, and thus to keep down every pathologic growth of granulation or polypous tissue. Any accumulation of pus behind the lateral part of the anterior nasal wall, or in the anterior inner angle of the cavity, is also excluded. Further, the large opening located well to the front renders the occurrence of a relapse impossible. In

3. Archiv. für Laryngology and Rhinology, vol. xvii, No. 21, and following.

the Luc operation we are sometimes confronted by the condition that the permanent nasal opening of the antrum, due to the unfavorable location being out of view, especially when the patient has not been able to come regularly for the after-treatment has nearly closed or so narrowed, after some time, that a thorough draining of this cavity or even inspection is out of the question. According to the impaired drainage, the suppuration becomes increased; the granulation, inside of the cavity will proliferate, and within a short time we have to resort to a new operation for the cure of the recurrence, a fact which confronts us likewise now and then in Luc-Ogston's frontal sinus operation. These are depressing experiences, hence we ought to be only too glad to know of a method which renders these recurrences absolutely impossible. One of the objections offered is its magnitude. I must confess, out of my own experience in three cases, that the simplicity of this operation in comparison with Luc's or Boeninghaus', is most surprising. We all know how difficult the step is in Luc's operation to remove through the hole in the canine fossa so much from the lateral nasal wall, as it should be done, or in Boeninghaus' operation to form an unlacerated complete mucous membrane flap of the nasal wall. All these steps are done with the greatest ease and much quicker in Denker's operation. The hemorrhage is not greater than in Luc's operation. So far as the dread of possible consequent disfigurement (falling in of the cheek) is concerned, I think nothing can convince you more to the contrary than a glance at this patient. This lady had been suffering for the last eighteen years from sinus empyema of both sides. While on the left side only the antrum and anterior ethmoidal cells were diseased, without any odor existing, on the right side a pronounced infection of all the sinuses, except the sphenoidal, existed; the pus ran down constantly in streams, the stench being simply fearful. Polypi developed gradually. She had been operated on by Senn, of Chicago, about twelve years ago. The patient came under my care about the 12th of November, 1905. In a preliminary operation the anterior two-thirds of the right lower turbinated body was removed, and on the 25th of November the radical operation on the right frontal sinus, anterior and posterior ethmoidal cells and antrum of Highmore was performed. The frontal sinus was operated according to Tilley's (London) or Coakley's (New York) obliteration method. It left a small retraction of the scar, which I am going to overcome by paraffin injection in the near future. The antrum operation according to Denker was done at the same time. In removal of the lateral nasal wall and the formation of the flap the lack of difficulty in comparison with Luc's and Boeninghaus' operations struck me, but yet I hope we can shorten the time of breaking down the lateral wall considerably by using especially suited forceps which I am going to have made. The removal of the strong lateral pillar of the apertura pyriformis, which has a diameter of nearly half an inch, requires a very sharp chisel and careful chiseling, together with the use of strong bone forceps. Too violent chiseling is liable to produce fractures in the body of the superior maxillary bone. The antrum cavity was without pus about two weeks after the removal of the dressing; the suture in the gingival labial fold healed by first intention; the frontal sinus required about eight weeks to become obliterated by granulation. Three weeks ago I began treatment of the ethmoidal cells and antrum of Highmore on the left side, which, owing to the mild character of the pathologic changes, required only minor operations; on the one hand, curetting out the ethmoidal cells and on the other breaking down the membranous part of the antral wall of the infundibulum by means of Myles' excellent cutting trochars. The hole was made large, so that the patient can do the syringing of the antrum herself. Slight secretion is still present on this side, but only of a mucous character. This side is also healed, practically. The preserved periosteum on the right side has already formed new bone, and no disfigurement whatever has resulted from this very extensive operation. It is self-evident that I do not recommend Denker's operation for every case of chronic antrum empyema. A considerable number of chronic cases of short duration, especially when the antrum is secondarily diseased, thus acting as a reservoir for the pus issuing continually from the frontal sinus, are curable in a relatively short time by Gerber's or Onodi's method through the infundibulum. The in-

strument for this which I warmly recommend is Myles' cutting trochars. The decision as to resorting to this method depends on careful examination of the case, especially the absence of well-marked pathologic changes of the lining, as shown by absence of the shadow in transillumination.

Further, about 60 to 70 per cent. of all chronic antrum cases can be cured by employing Rhéti-Claoue's method, so nicely described and warmly advocated recently by Dr. Otto Freer. But there remains a large number of cases with degeneration of the lining of the cavity, necrotic floor, the periosteal lining representing such exuberant growths of degenerate polypous and fibrous tissue that the cavity appears like a mass of flesh, the interspaces being filled with cysts or stagnated, putrefied, cheesy and foul-smelling pus. When we have to deal with such a condition we are mistaken in hoping to cure such antrum cases by the intranasal route. We have to resort to a radical operation through the facial wall. If this is necessary there is no reason why Denker's operation should not be chosen, which is simpler and easier to perform than Luc's or Boeninghaus' operation. The safer control of the healing process secures the shortest, easiest and most painless after-treatment and involves the guarantee of a quick and lasting cure with no possibility of recurrence.

DISCUSSION.

Dr. W. E. Casselberry:—I would like to ask a few questions. First, with reference to the preliminary operation on the inferior turbinate body, would it not be possible to make the resection of the turbinate under the same anesthesia immediately preceding the major operation? It is always more or less embarrassing to need to do two operations instead of one. I have not myself seen the way clear to make the two in one, hence the inquiry of the essayist.

Second, can we, with reasonable certainty, always rely on total freedom from facial deformity equal to the patient shown by Dr. Stolte? I would fear, from the removal of tnis bony junction of the walls of the antrum, nose and face, some depression at the wing of the nose.

I am, however, favorably impressed with Dr. Stolte's description of Denker's operation. It is certain that we very much desire a more satisfactory operation for chronic empyema of the antrum than we have previously possessed. The Luc operation, carried out exactly as Luc described it, and in its various modifications, is uncertain with respect to possible recurrence of the disease. The operation which has given me the best results is the old open operation, made known to me by Dr. Gilmer, but which I supplement by a large antronasal opening, which is then practically the same that Dr. Coakley described recently. There is one modification of this operation which has given me satisfaction; that is, instead of making the large antronasal opening into the inferior nasal meatus, to make it through the thin part of the wall in the middle meatus, but making it very large, which is then more apt to stay open than an aperture in the inferior meatus. I do not believe that it makes much difference with respect to the amount of drainage when it is necessary only to supplement the radical operation and curettage of the antrum, whether the enlarged opening into the nose be at the very bottom of the cavity or not, so long as it is freely large and permanent.

Dr. F. G. Stubbs:—It seems to me, from Dr. Stolte's paper, that we must have our own ideas as to the healing of these cases. I do not believe that they will be as rapid as his case just reported, for it had had a previous operation, and so there was not such a large denuded lining to be reformed. In Denker's paper the three cases reported had only been operated at that time one month, and he states that there was still a mucus secretion present. It does not seem possible that such a large raw surface as is generally made in this operation could be entirely healed in less than three weeks at least. In a recent case of mine, operated by the modified Luc-Caldwell method, and in which the anterior ethmoidal cells were removed, the patient left the city in ten days with the buccal wound entirely healed. The antrum was irrigated for four months, and on discontinuing the washing there was only present a crust each day of the size of the little fingernail, but no discharge. On examining the patient nearly a year after time of

operating, I find only moisture around the frontal duct, so that the probabilities are that the antrum was well in three months at least. I believe that that time will probably approach the actual time required in most cases operated on by the Luc-Caldwell method. Undoubtedly this time will be much shortened by Denker's method, for one can see every part of the antrum and so hasten healing by appropriate measures.

I would say in defense of the Luc-Caldwell operation, after studying it on fifteen or twenty cadavers, that it is possible to thoroughly inspect with the eye all parts of the antrum, providing a sufficient amount of the anterior wall be removed, and so one can curette all diseased tissue. Further, if the nasal wall be removed well forward toward the apertura pyriformis one can see part of the interior from the anterior opening of the nose and the balance with the aid of a small mirror introduced into the naris. Nor will the nasal opening close or narrow by granulation tissue if we preserve the mucous lining of the inferior meatus and use it as a flap to lay down on the floor of the antrum after the bony wall has been thoroughly removed. As the floor of the antrum and of the nose are in most cases on a level, there will be no ridge left for secretions to accumulate behind and the ordinary blowing of the nose will free the antrum as well as the nose.

Boeninghaus, and later Behrens, of New York, have advocated making a larger flap by dissecting out the bone of the lower turbinate and utilizing the tissue of that body for making a larger flap. While I have done this a few times on the cadaver, I imagine that in the live subject, in the presence of free hemorrhage, it would be rather difficult to do this procedure. But I do not regard this as of much advantage, as it is rare that all the lining of the antrum has to be sacrificed, for generally we find the diseased areas isolated or not the whole thickness of the membrane involved. If the floor is covered the essential need is met and the nasal opening can not contract.

I have done the operation of Denker on the cadaver but once, but I find it both simplifies and shortens the time of handling the inner wall of the antrum. It only requires a minute or two to elevate the mucous membrane of the inferior meatus and part of the floor of the nose. The chisel can then be rapidly driven back from the lower corner of the apertura along the floor of the nose through the wall of the antrum without fear of lacerating the membrane. It can again be started from the front and a narrow piece cut out of the lower corner of the apertura and then a pair of scissors will easily remove as much as desired of the wall, including the lower turbinate. Denker recommends the removal of the anterior third of the turbinate three or four days previously. The flap of mucous membrane can now be more easily properly placed. In addition to ease of operating, the attack on the ethmoids can be more directly done. In case of after-treatment this method allows perfect access to all parts of the antrum and hence assures a proper and direct treatment of any hindrances to rapid healing.

The objection Dr. Casselberry made, that a depressed point might later result at the corner of the nose, can not be decided by observing the patient so soon after the operation. While I am inclined to believe that it will not occur, yet personally I would prefer not to have this feature of the operation done on myself until I had seen cases several years after and was sure it had not occurred. Kretschman has suggested leaving a bony edge at the apertura pyriformis to do away with the possibility of the scar drawing in at this angle of the nose. It does not obstruct the view of the antrum much more. Taken all together, I believe that Denker's operation is an advance on the present Luc-Caldwell operation and its modifications.

Dr. Louis Ostrom (Rock Ieland, Ill.):—My experience is limited to twenty-five or thirty operations on the living and about 200 on the dead. In two operations I resected the anterior one-half or two-thirds of the inferior turbinate; then, bringing in the technic of the submucous operation, made a flap of the mucous membrane of the outer wall of the meatus, from the attachment of the inferior turbinate, bringing the anterior incision down to the floor, along the anterior margin of the apertura pyriformis and then half way across the nasal floor. The

posterior incision runs downward and forward across the floor of the nose, obtaining quite a flap, which is loosened completely. Then the ordinary Luc-Caldwell operation is done through the antrum.

Dr. Stolte said that the anterior corner is the troublesome region, that it is practically inaccessible by all operations. It is for this reason that I mention the two operations. I had a gauge made on the plan of an auger, bent so that the center can be grasped firmly, bringing the opposite end down on a line with the edge of the gauge, on the dental principle of transmission in a straight line. This gauge permits of chiseling at an angle of 45 degrees to the face, inside the Luc-Caldwell opening, into the antrum. With this gauge the anterior corner can be absolutely obliterated and the anterior wall of the antrum made perfectly smooth, leaving as much of the margin of the apertura pyriformis as desired. You can then also curette the ethmoidal and sphenoidal cells. Take the flap and by making mattress sutures you can suture through the superior gingival membrane. Then you have mucous membrane lining the anterior wall of the antrum.

The Denker operation is too radical, except in the very severe cases, where the bone is necrosed, but in such it certainly is a marked advance in our technic. I believe in leaving all the bone I can, at least saving the apertura pyriformis.

While in Boston I saw them doing a number of exploratory operations on the frontal sinus, then filling in the sinus with paraffin. The granulations are allowed to force the paraffin out gradually. It is claimed that this does not leave a scar.

Dr. O. T. Freer:—I wish to again advocate the operation I described in this society last year, and which was referred to by Dr. Stolte in his paper: the removal of a large part of the nasal wall of the antrum intranasally from the lower meatus after resection of the anterior half or two-thirds of the inferior turbinated body. While the method of making an opening in the middle meatus, spoken of by Dr. Casselberry, is a good one for comparatively recent cases of empyema of the maxillary antrum, where a few irrigations will end the matter, it does not offer good drainage for such cases as have become at all inveterate, for the reason that during the greater part of the day the patient is upright and the discharge must, therefore, collect in the antrum until it reaches the level of the opening, and only while he lies down and upon the side of his body opposite to the affected antrum can there be anything like drainage from an opening in the middle meatus. In contrast to this the operation I have described,[1] performed with the trephine and burr driven by the dental motor makes a large opening in the nasal wall of the antrum down to the level of the nasal floor, an opening large enough, if need be, for curettage, one which permits inspection and which does not, in my experience, have the tendency to close that Dr. Casselberry refers to. The ablation of so large a portion of the nasal wall not only drains but freely ventilates the antrum, the latter result having an important effect in restoring the pathologically altered mucosa to a normal condition. Zuckerkandl and Zarniko explain the evil effects of the absence of ventilation upon the suppurating mucous membrane of the antrum in the many cases where the natural opening is closed to the ingress of air by such states as swelling of its lining, polypi, enlargement of the middle turbinal or hyperplastic filling of the hiatus semilunaris. They show that the result of such closure of the outlet of the antrum is absorption of the air contained in its cavity and the consequent placing of its mucosa under suction, that is, negative pressure, such as occurs in the tympanic cavity when absorption of the air contained in it takes place after closure of the Eustachian tube. The result of this rarefaction of the air in the cavity of the antrum is venous congestion and edema of the mucosa, just as a cupping glass causes the same condition in the skin. Free ventilation of the cavity of the antrum does away with this abnormal partial vacuum, so that edematous and apparently badly degenerated polypoid mucosa may return to a normal state when the negative pressure is relieved and the irritation of stagnant secretion is gone. Of course, the pathologic changes may have become extreme and include caries or

1. Laryngoscope, May, 1905, p. 343. Chicago Med. Recorder, July, 1905. Illinois Med. Journal, July, 1905, p. 557.

necrosis of the bone, and in such cases the more extensive operation of Denker, advocated by Dr. Stolte, is doubtless the best of the radical ones, but such extreme cases are very rare and the vast majority can be cured by the intranasal operation I have described. The more I employ it the better I like it. It can always be done under cocain anesthesia and the burr alone, without the forceps, is quite sufficient to enlarge the opening to the desired extent without much pain to the patient. It is surprising how soon suppuration ceases. My patients have been able to dispense with all washings after a month or six weeks, during which time they use only normal salt solution as a cleansing fluid. There is no difficulty, as I have emphasized, in entering the antrum with a straight trephine and straight burr. The nasal wall may be plainly seen after the resection of the inferior turbinal, which is not done as a preliminary procedure several days before, but is a step of the operation performed immediately before opening the antrum. It is easy to pack the latter with a strip of bismuth lint inserted through the opening made. The only possible objection to the method is the destruction of a part of the mucosa of the nasal wall, so that this covering would not be available for a Denker operation, but since the indications for the latter are exceedingly rare this is not a matter of moment. My patients can wash out their antra and find the opening after the intranasal operation just as readily as Dr. Stolte's patients can. I have them use large Eustachian catheters for the purpose.

Dr. Stolte (closing the discussion):—With regard to the preliminary removal of the lower turbinate, this could be done in the same sitting as the radical operation, but I prefer to do it four or five days before, because the operation can be done easier with the patient in the sitting position than in the recumbent or dorsal position. By cauterizing the attachment of the turbinate it can be removed with but little hemorrhage, and then when we begin the main operation we have a healed surface, no rough edges to which the tampon can adhere later. The hemorrhage in all these operations is severe, but in this way we can reduce the hemorrhage in the chief operation.

As to the second point, my speedy cure, the healing of the antrum depends on two points: First, that we really removed all the diseased tissue without denuding the bone unnecessarily, at the same time preserving all the healthy lining; thus we can shorten the healing process very much. On the other hand the floor of the antrum, which is chiefly diseased, we curette thoroughly, covering the denuded bone with a mucous membrane flap. During after-treatment we are able to view the entire cavity and may cauterize any point which is likely to produce secretion. Thus we can produce a cure in shorter time than we can with the Luc operation. Naturally, there will be still some moisture in these cases after the first two weeks, but there is no pus. Further, an important point during operation is not to lacerate the periosteum of the facial wall, but to detach it very carefully and fix it afterward on the remainder of the gingival-labial fold. The preservation of a resistant outer wall depends on preserving the periosteum. In this case I succeeded very well in doing that, and I see in this success the cause of my speedy cure. I don't believe that we will see in a year or two from now any disfigurement. In two other cases the result is the same as in this case. Of course, we must wait for a year or two before we can speak of any final results. The rapid cure also depends on frequent washings of the antrum with normal salt solution, so as not to allow the accumulation of any secretion. This patient did this every two hours.

Dr. J. T. Campbell reported a case of primary syphilitic infection of the nose.

DISCUSSION.

Dr. W. E. Casselberry:—I have not seen any nasal chancres, but I have seen, in two or three instances, this characteristic fibrinous exudate on the septum and turbinates as a manifestation of secondary syphilis. The exudate was so prom-

inent that nasal diphtheria was suggested at once. It occurs to me that, inasmuch as Dr. Campbell described this initial lesion of chancre as being covered by this exudate, there is here a point in diagnosis which it is necessary to keep in mind.

Dr. Thomas Faith reported a case of a foreign body in the nose.

A CASE OF RHINOLITH.

THOMAS FAITH.

CHICAGO.

As cases of rhinolith are not common, and as few of them appear in the literature, I have ventured to report the following case with some general remarks upon the condition:

Miss G., aged 17, consulted me in November, 1905, on account of nasal obstruction, a foul-smelling discharge from the nostrils and almost constant pain in the right side of the head and face. This condition had been present for the last six months. Three months previously she had been examined by a rhinologist and was told that she required a nasal operation, but she declined the proposition. Examination showed the left nasal passage to be clear; the right passage was filled with pus, which, after removal, revealed a fleshy-looking mass, granular in appearance and apparently occupying the posterior half of the inferior and middle meatus. On introducing a probe the mass was found to be firm and unyielding and gave a sensation as of a bony growth covered with soft tissues. Probing caused profuse bleeding. With the rhinoscopic mirror a dirty yellow or grayish mass could be seen projecting into the postnasal space on the right side. The mass was surmounted with granulations. As the patient was very nervous I made an appointment for another examination, at which time I intended removing a portion of the mass for microscopic examination, as I considered it to be a probable sarcoma. Accordingly, two days later, under cocain and adrenalin, I attempted to remove a portion of the mass with a pair of nasal cutting forceps, and, failing in this, I employed a sharp curette. After removing quite a quantity of granulations and desiccated mucus I encountered a gritty mass and soon determined its true nature. I at once set about trying to remove the stone, but could only accomplish this after crushing it, which I did with a firm pair of curved forceps. The stone was of a dirty gray color and had for its nucleus a pearl button five-eighths of an inch in diameter, which the mother later remembered had been introduced by the child when about two years of age. The weight of the entire stone was about 100 grains, including the button. With the exception of a slight decrease in the size of the inferior turbinal posteriorly, there was no structural damage done to the nose. The nasal floor and walls were freed from granulations with the curette and dusted with nosophen; the discharge and odor at once subsided and the recovery was uneventful.

There are several points of interest in connection with this case. First, the length of time the foreign mass was present (about fifteen years) without giving rise to symptoms; second, the lack of structural changes, resulting from its long sojourn in the nose; third, the way in which the true nature of the mass was hidden from view and from detection with the probe, by the abundant granulations and the layer of desiccated mucus with which it was covered; fourth, the extremely fetid odor of the discharge, which reminded me very much of the odor sometimes emitted from a malignanat growth, and which, no doubt, was due principally to the decomposing epithelial débris from the nasal mucosa, as there was no bone necrosis at any point.

Rhinoliths, we know, are collections of calcareous material which have usually formed around some foreign body, a piece of carious bone, a fragment of inspissated mucus, or a fragment of clotted blood, which has remained in the nasal passages for a considerable period. If a foreign body acts as the nucleus, it may have been introduced through the anterior nares by the patient; it may have been forced through the posterior nares during vomiting or choking, or it may have penetrated the tissues, as in the case of lead bullets or particles of stone or metal during an explosion. If a fragment of carious bone, it may be a sequestrum

from the septum, turbinal, or outer nasal wall; as these loose pieces of bone are occasionally found in the nasal passages. Sometimes rhinoliths are found to contain a cavity instead of a nucleus. They are usually found in adults, though they are occasionally present in comparatively young children; and may vary in weight from a few grains to several hundred grains. They have been known to have remained in position for thirty or more years.

The symptoms of rhinolith, in general, may vary from a slight one-sided discharge to grave structural changes. Fetid discharge, hemorrhage, and obstruction to breathing are symptoms common to most cases. Deviation of the septum to the opposite side, and distortion, with prominence of the malar bone, have been observed by Baber, and Knight mentions perforation of the palate, with facial paralysis, as having occurred. Disturbances of smell, tubal and middle ear diseases are sometimes occasioned by these obstructions. Seiler says that they have been observed in both nostrils at the same time, and that they occasionally penetrate the soft tissues and become covered with mucous membrane.

The diagnosis of rhinolith may be very easy or may be difficult, depending somewhat upon the size, position, and the secondary changes which it may have occasioned. The conditions with which it is most likely to be confounded are caries, malignant growth, and osteoma. Thorough washing of the nares and the careful use of the probe will usually reveal the nature of the mass, if the granulations have been removed; and, in the probing, the physician will be somewhat aided, I believe, if the probe is used posteriorly, i. e., through the pharynx, as well as anteriorly. Also the use of a sharp-pointed probe will be found of service as it will penetrate the granulations, mucous membrane, or desiccated mucus which may hide the stone and its gritty feel.

DISCUSSION.

Dr. W. E. Casselberry:—I would like to call attention to a point in diagnosis. A foreign body in a nostril is apt, in time, to produce suppuration, while a unilateral purulent discharge of a chronic nature is also an indication of sinus suppuration. One should, therefore, keep both possibilities in mind, whenever attention is drawn to a nasal secretion more or less foul and purulent which issues chiefly from the nostril.

Dr. O. J. Stein:—Quite recently I removed a foreign body from the nose. With bone forceps I liberated it from its bed, which was at the junction of the posterior with the middle third of the inferior turbinal on the right side. It is black in color and has the appearance of a piece of coke and had been in the nose for ten years. The only symptom was a bloody serous discharge. There was no pus, no pain, no excoriation about the nostril. The patient has no knowledge of introducing a foreign body into the nose.

Dr. F. G. Stubbs:—About six years ago I saw a man who had been held up and shot. A revolver bullet entered the cheek but was not found at the time. Six months afterward the man had pain and came to my clinic at St. Luke's Hospital Dispensary for examination. I found the bullet projecting into the inferior meatus. I extracted the bullet easily with a pair of forceps. The man had noticed a discharge from his nose for only about a month before I saw him.

CHICAGO OPHTHALMOLOGICAL AND OTOLOGICAL SOCIETY.

The annual meeting and banquet was held at the Chicago Athletic Club Jan. 9, 1906, J. E. Colburn presiding. The annual report of the Secretary-Treasurer showed a balance of $62.40 on hand, with resident membership of fifty-four and non-resident membership of twenty-eight.

The following officers were elected for the ensuing year: Dr. George Fiske, president; Dr. Thos. A. Woodruff, vice-president; Dr. E. V. L. Brown, secretary; Dr. W. H. Wilder, councilor; Dr. J. E. Colburn, member of the executive committee.

DR. THOMAS FAITH, *Secretary.*

CHICAGO NEUROLOGICAL SOCIETY.

A regular meeting of the Chicago Neurological Society was held October 26, with the President, Dr. Harold N. Moyer, in the chair. Dr. Julius Grinker demonstrated a case of Brown-Séquard paralysis.

Dr. Henry Gradle presented a case with the tentative diagnosis of serous meningitis, of which he said: The patient came from a family that is fairly healthy, no serious sickness in childhood, except repeated attacks of chorea. At the age of 15, in October, 1900, he had a febrile attack, with stupor, convulsions, head retracted, headache; stupor leaving gradually, but sick from the middle of October until late in December, when the sight began to fail, and late in December all had gone. He was treated with iodid potassium, presumably, and, as he claims, without improvement. He came to my care in 1902, practically two years after his first attack. The general health was, on the whole, good, though not quite perfect. He was strong, could get about well, never sick except an occasional slight attack of tonsillitis, but a numb feeling in the head, tension in the nerves, as he expresses it, "a something in the middle of the head," but no pronounced mental involvement. He presented atrophy of both optic nerves—not clear whether post-neuritic or not. It looked more like pressure atrophy. Vision was better than 1/10 in each eye, the field contracted to about half and in each meridian concentrically contracted. Under iodid of potassium and strychnia in large doses he improved unquestionably. His vision was reduced to 20/60 in one and 20/80 in the other eye. The field has never contracted, but increased a trifle. The vision remained the same for about two years, and then began to fail a little bit. He was given strychnin subcutaneously, according to Gowers' suggestion, with questionable improvement. The question of suppuration occurred to me for this reason; at first examination he gave no history of a nasal condition, but on iodid of potassium in large quantities he got profuse nasal suppuration. There is no sinus disease, no headache, no indication for operation, and without operative interference one can not locate the sphenoid in a fairly narrow nose. There is no trace of pus under douching, and there will be periods when there is none, but every time he uses iodid freely he gets the free suppuration on both sides of the nose.

The objective examination has never given any decided result. In August of the present year an attack occurred similar to the first, but not so severe. He was disinclined to get up, with staggering dizziness, pain in head and back, and irritability. There has been some little rise of temperature, 100.5, 99.5, or a little over, but occasionally a normal condition. He has improved pretty steadily since the latter part of August.

Dr. Patrick asked if the pressure symptom had changed.

Dr. Gradle:—Never any neuritis visible; never any vascular change in the eye. The atrophy is more pronounced this year than previously, and while the vision sank a trifle early this year and even now is less than in the spring, it is still about 1/10 in either eye. The nerves are paler than they were. He is not entirely over his attack; a day or two ago he had a temperature of about 100; he is still depressed, but brighter mentally than he was. He can enjoy talking and being read to and can walk fairly well. During this condition Dr. Grinker made an examination. The condition is one of increased intra-cranial pressure, probably never totally absent in these past years, and pronounced during the present attack, with a low fever. On the whole, it seems these symptoms fit best into Quincke's description of serous meningitis. Quite a number have ended in recovery, and the anatomical diagnosis is not difficult. The largest portion of the material is probably furnished by the otologists who see frequently a condition which is the result of increased intra-cranial pressure, and sometimes with pronounced symptoms like paresis, paralysis and sensory disturbances, etc., and when there is no other lesion recovery is the rule after the suppurating focus in the mastoid bone was removed. Where done in vivo, there is always a large escape of suppurative matter. There is sometimes evidence of epidural abscess and brain abscess, which is complicated by a serous meningitis, but in the individ-

ual case the diagnosis is indefinite. It has varied between serous meningitis and brain tumor. Here the long interval of comparative immunity almost excludes the possibility of tumor.

Dr. Sanger Brown:—Would you not think it well to make a lumbar puncture in a suspicious case like that?

Dr. Gradle:—The symptoms are not so serious as to warrant us in undertaking this step, which I am not sure is free from danger.

Dr. Patrick:—It would be dangerous to do a lumbar puncture in such a case, particularly where there was increased intercranial pressure; the lumbar puncture would be decidedly dangerous, because the probability is the medulla is pushed down further than it should come, and relieving the tension from below would allow it to be pushed further down. I agree with the caution of Cushing that in such cases where justifiable, to puncture to take off the pressure, but an exceedingly small amount of fluid should be allowed to escape. To puncture and allow the free escape of fluid is decidedly dangerous.

Dr. Hecht:—In Berlin they have discarded it entirely and it has fallen into disrepute in diagnosis work because of the lymphocytosis, as well as the albuminosis. Is there any history of acute infection, such as influenza or grippe?

Dr. Gradle:—No; the attack was supposed to be typhoid, but the history speaks against it. The stupor came on quickly, almost suddenly.

Dr. Grinker:—Through the kindness of Dr. Gradle I examined this case very carefully and tried to find some positive diagnosis. The diagnosis of serous meningitis is always made by exclusion. We have been unable to find in the history or examination anything which would indicate this to be an organic nervous lesion, such as multiple sclerosis or brain tumor. While in Vienna I saw two cases in which such a diagnosis had been made, and I saw the acute attack, whereas here there is only a history of such attack. The attack was somewhat of a stupor, with slight retrogradation of the head, headache, and a very slight elevation of temperature, 99.5-100. In the absence of any other symptoms the diagnosis of serous meningitis was made; the patient made a complete recovery in six or seven weeks. The other case was not watched over a prolonged period and there was no knowledge of recurrence of the symptoms. Quincke divides these into the acute, the chronic, and the paroxysmal. There is a period of slight illness, the patient almost recovers, or entirely so, until a few months or years later a similar series of symptoms develops. He ascribes this to an accumulation of serum, which in the course of time is being absorbed, and with the absorption of the fluid the symptoms vanish; as the serum accumulates again we have an attack of the symptoms, which may be so illy defined that one would not know what to call them, but all suggest meningitis.

Dr. D. O. Hecht read extracts from a paper on "Dementia Præcox," which comprehended an historical review, a discussion of the symptomatology in general as well as the subgroups and special forms. Reference was made to the pathology and differential diagnosis, and in conclusion the essayist dealt with the controversial character of discussions entered into by the contemporary alienists of France, Germany, England and America concerning the Kraepelinian doctrine applied to this psychosis. A summary of the paper, which appears in full in the November and December issues of the *Journal of Nervous and Mental Diseases*, 1905, is as follows: 1. That Heinroth, in 1818, hinted at various forms of dementia, and in one of these perhaps anticipated later descriptions of dementia præcox. 2. From the time of Esquirol, 1838, to Rousseau, 1857, French labors in this field ceased, but were renewed from 1860 to 1886 with vigor by Morel, Legrand du Saulle, Falret, Legrain, who aimed to correlate arrested development with the pubescent age and emphasized the mode of onset. 3. The English school of psychiatrists, led by Tuke and Clouston, added the weight of their authority by teaching that the essential nature of adolescent mental disease lay in the "tendency to dementia from the very beginning." 4. German interest was awakened in 1871 by Hecker, who, it is believed, employed for the first time the term hebephrenia

and defined its scope quite as accurately as it is at present construed. 5. Following the footsteps of Hecker, Kahlbaum by subtle analysis evolved a milder abortive, curable type, which he chose to call heboidophrenia. 6. The subsequent writings from 1883 to 1903 of Neisser, Pick, Greisinger, Somer, Krafft-Ebing, Wernicke and Diem have materially advanced the knowledge and study of adolescent insanity. 7. That Kraepelin, recognizing the imminent need of clarifying all thought upon the subject, set himself to the Herculean task of classifying anew and submitted for the first time, under a title not wholly new, a series of disease pictures in group form, all of which had in common a termination in a special kind of mental weakness. The title was that of dementia præcox. The classification was a radical step in advance of anything hitherto accomplished. In the fourth edition the psychoses were arranged in three groups: (a) dementia præcox (Hecker's hebephrenia), (b) katatonia, (c) dementia paranoides. In the seventh edition (the last) no mention is made of degenerative psychoses; the general designation of the chapter in dementia præcox and the three (a) hebephrenia, (b) katatonia, (c) dementia paranoides. 8. Kraepelin's definition and general symptomatology are briefly considered, some of the important phenomena receiving proper emphasis by way of case references. 9. The three groups fashioned by Kraepelin are separately discussed with the attached short case reports. 10. Pathologic research done by Alzhermer, Nissl, Voison, Ballet, Kiernan, Hoch, Meyer, has given little more than an insight into the structural changes that underlie the diseases, but the changes noted are sufficiently suggestive to stimulate to still keener investigation. 11. The optimism concerning curability in any instance should be held in check. Most authors agree that the prognosis is even better in the katatonic form than the hebephrenic and most unpromising in the paranoid. A large material and very long interval of freedom from symptoms is necessary to govern the ultimate dictum as to prognosis. 12. In the differentiation of dementia præcox from circular insanity, paranoia and general paresis, signal symptoms, such as memory loss, the judgment, negativism, verbigeration, manner of speech, character of the delusions and hallucinations, the tics and katatonic symptoms must be carefully weighed, since some of them may be manifest in all forms of insanity. 13. Diem's dementia simplex is deserving of note, since it differs from all the aforementioned types by virtue of the following characterization: An onset without prodromes, insidious, without exacerbations or remissions, without maniacal or melancholic moods, without insane hallucinations or delusions, without tics, stereotypy, negativism or cataleptic and katatonic phenomena.

Dr. Patrick:—I would like to allude to two forms of what seems to me should be classified as dementia præcox: First, the simple dementia præcox, which I think should properly be so called, and to be included in it a dementia grafted upon an individual who has never been entirely normal mentally; that is, a somewhat behind-hand individual; the high-grade imbecile, not quite up to normal in a mental way, who goes on gradually developing and improving, acquiring greater intellectual capacity, but never developing up to the normal, until at some time in his career he begins rapidly to fail and show the ordinary symptoms of dementia præcox. I have seen a few such cases and have not known any way to classify them except to assume it is an ordinary dementia præcox occurring in a defective individual. So far as I know, this particular kind has not been much written about. It should be recognized and the cases differentiated from the various vagaries and outbreaks likely to occur in defective individuals. The simpler form is oftener seen in private practice than in public. Practitioners see such young people who are giving annoyance to their parents and friends, but are not bad enough to be sent to an asylum. These cases are not so very rare.

Dr. L. Harrison Mettler:—We are all familiar with the enormous amount of discussion which dementia præcox, like paranoia, has provoked and with the different views that are ofttimes diametrically opposed. This very discussion of the subject indicates the weakness in much of our modern psychiatry, and Kraepelin has even more forcibly indicated the weakness in adopting a classification based largely upon the course and prognosis of the respective diseases. I believe

the method is an erroneous one and in following it we are traveling along a wrong road. I do not deny the popularity of the method. It is in line with all the earlier and more primitive methods of studying disease wherein the symptomatology alone is taken as the essence of the disease and no attempt made to correlate the mere symptoms with a pathologic basis as the only and true essence of the disease. It is the clinical method, popular because so obvious in its presentations, but with all its instability and inadequacy when contrasted with the pathologic method. In spite of the fact that clinically we are started upon the diagnosis of a disease by a close observation of its symptoms, course and termination, the disease itself which we are diagnosing is not the symptomatology, but the histopathologic changes upon which that symptomatology depends. The distinction is an important one and indicates the reason for the opposition of Wernicke to Kraepelin.

Leaning upon normal psychology and upon cerebral physiology and localization, Wernicke has attempted an explanation of psychiatry upon a known cerebral basis. Physiologic and pathologic psychology are brought into line with our knowledge of brain functions. In spite of the fact that much is still unknown in regard to the cerebral functions, and in spite of the fact that we might not agree with Wernicke in some things, as, for example, his correlation of all psychic activity with the speech function, I am convinced that his method is the only truly scientific one. It is the one in which our best efforts should be employed in the attempt to solve the problems of psychiatry. We should study closely normal psychology and correlate the observations made with the physiologic functions and changes of the brain. With this basis to work from, we should study abnormal psychology or insanity and correlate its observations with abnormal cerebral physiology or cerebral pathology. By the Kraepelin method we are studying the psychoses rather from their end-products; by the Wernicke method we are studying them from their very essence. The wherefore of a certain set of psychic manifestations is clearly more important to know than the course and mode of termination of those manifestations. In the method which he has adopted, Kraepelin has accomplished much more, perhaps, than any of his predecessors. The instability of the method, however, will practically guarantee always an interminable discussion of whatever is founded upon it. In the physio-pathologic method which Wernicke has adopted, though at the present moment the relative paucity of positive data is glaring enough, the method itself, based as it is upon a study of the essential nature of the disease itself, will gradually lead to a diminution instead of an augmentation of psychiatric discussion.

Dr. Sanger Brown:—I have been very much interested in the paper. I have been a long time trying to find out just what dementia præcox was, and when Dr. Hecht stated it was the purpose of his paper to inform us what it was, and then said that his paper was so long that he could not read that part of it, I was disappointed. From what I can gather from the literature and the discussions on the subject I think that Kraepelin, who set the discussion going, was a very enthusiastic student and had been carried away somewhat in his enthusiasm. He has been so intent on carrying out and following his ideas, which he has done cleverly, that he has led us astray. I infer from Dr. Hecht's paper and from Kraepelin's later remarks that he appreciates that himself. He does not claim now to have discovered a new disease, and I do not believe he ever meant to claim he had, but a great many of his readers and people who study his writings have some way been under the impression that he was making such claim. I do not believe, in fact, that Kraepelin discovered dementia præcox any more than Marie discovered hereditary cerebellar ataxia. He took out some well-known symptoms and gave them a name. The discussion he has provoked has done good, but when this has been reviewed by practical alienists, men who spend their lives in close contact with the insane in various phases and follow the cases through, who in the wards of institutions of their own have had years of impression and study and have been able to make their own conclusions and prognostications, they have not indorsed Kraepelin's dictum.

Dr. Sydney Kuh:—One point may be worthy of mention in discussion of the

differential diagnosis of dementia præcox from the circular forms of insanity—the depressed condition. The depression in dementia præcox is decidedly different from that in the maniacal stage of circular psychoses. They are atypical cases. In any case of mental depression occurring in a young individual in which the symptoms were not typically those of the maniacal form, I would feel that it was a case of dementia præcox. As for Dr. Mettler's suggestion as to a sounder basis for classification, we shall not be able to have what he asks at the present stage, and for many years to come, probably. Unfortunately, physiologic psychology has not given us, and will not for a long time, the necessary data which would enable us to build up a pathologic psychology on that basis. Any one who has worked at all along this line must realize what an incredible number of experiments will have to be made and how tremendous the difficulties are in the way of getting sound facts, and we certainly will never see the time when it can form the basis of classification.

Dr. Grinker said that the paper was a most admirable one and served to emphasize the fact that there was constant change going on in medical thought and nomenclature. Some time ago a case was examined at his clinic and set down as a typical melancholia attonita. A year later the patient presented himself, much better, and was classified by all the department as a circular insanity. Still two years later and the boy was classified as dementia præcox. Dr. Grinker did not feel sure that the present classification would stand the test of time.

Dr. Moyer:—When I began to practice in an insane asylum, the classification was at first based upon causation. Then we drifted into the special forms, where we had a name for every aberration, pyromania, cleptomania, and a name was devised for every particular bent of an individual patient. Then came along the volcanic eruption of Spitzen on one hand and Gray on the other, at that time, in fitting the idea to the monomanias and classifying them under paranoia. Later we added to that the hebephrenia, and now we are asked to group the hebephrenias and catatonias and all forms of early dementia into one grand group of dementia præcox. You see the tendency has been to first broaden the classification, then to narrow it, again to broaden and again to narrow it—two broadenings and two narrowings in an experience of about twenty-five years. Now in this dementia præcox to include the paranoias and the catatonias and hebephrenias is a mistake. They are well-marked and valuable clinical entities and they are useful in a classification. The dementia simplex is a good thing, the one really sound addition that the whole discussion adds to the value of our present classification.

CRAWFORD COUNTY.

The regular bi-monthly meeting of the Crawford County Medical Society was held at the First Presbyterian Church in Robinson, March 8, 1906. There were present at this meeting, which was open to the public, about twenty physicians and over 200 of the representative men and women of the community, including every minister of the city, editors, lawyers, the Board of Education and the superintendent, teachers and advanced pupils of the public schools. The president, Dr. Dunham, opened the meeting by stating that this was a meeting for the benefit of the people and that they would make it the more interesting in proportion as they participated in the discussion. The secretary read a short sketch, further explaining the purpose of the meeting and dwelling on the advantages of medical organization, both to the physicians and the people of any community.

The regular program consisted of a symposium on consumption, as follows:

HOW DO WE GET CONSUMPTION, AND HOW IS IT RECOGNIZED EARLY?

Dr. J. A. Ikemire,

PALESTINE.

In the study of disease it is necessary, for a thorough understanding of the morbid condition and rational treatment, to have as clear and accurate a knowledge of the cause of the deranged function as possible.

Of no disease is this more true than of consumption—the most formidable of all diseases, as is shown by the fact that one-seventh of all deaths are caused by it. Man is not the only animal that suffers from this disorder. It also attacks animals, from which it is quite possible for us to contract the disease. Against this danger the government has taken decided steps in the form of meat inspectors at all the great packing houses.

The cold-blooded animals are infrequently affected, but a few have shown by decided symptoms that they were tuberculous. Of the domestic animals, the cow is perhaps the most frequently affected. Some authorities place the number of tubercular cattle at 15 per cent. As this animal furnishes us food in the form of milk and meat, it is quite possible for us to contract consumption from it. Sheep are not often attacked, but there are a few cases on record. The pig quite frequently has consumption, but not so often as the cow. Horses, cats and dogs do not often take the disease. Of the semi-domestic animals, the guinea-pig and the rabbit are quite susceptible. These animals are frequently used for experimentation and as a means by which we may be able to find the disease in man.

All races of men do not show the same degree of susceptibility. The Indian is very prone to consumption. The negro, in his native country, does not show any marked degree of susceptibility, but when he is brought to this country he frequently contracts the disease in its most virulent form. The Irish show a great susceptibility, but the Hebrew is comparatively free from consumption. No climate or country is free from this scourge. The altitude plays a certain rôle. The higher the altitude the more free it is from consumption. By many authorities, low, wet regions are considered more infectious than dry. One thing is certain: the germ which is the cause of the disease grows and remains alive longer in damp, dark places, especially in those away from sunlight. It is more frequently encountered in tenements and overcrowded parts of cities than in the country.

The specific cause of consumption is the bacillus tuberculosis, discovered by Koch. In length this germ is about one-half the width of a red-blood corpuscle, or one-seven-thousandth of an inch; that is, if 7,000 of them were laid end to end they would extend but one inch. They are rod-like in shape, sometimes slightly bent. They are comparatively short-lived, especially when exposed to sunlight. They have been found in the room of a consumptive six weeks after the removal of the patient. The bacillus takes the aniline dyes slowly, but retains them, even though treated with acid, thus differentiating it from other germs, except the bacillus of leprosy, which disease may readily be recognized by its physical characteristics. It is of slow growth, developing best on blood serum and the potato, although it is possible for it to be grown on other artificial culture media. The bacillus is found in any part of the body which has been attacked by consumption. The more rapid the course of the disease the more germs will be found, as a rule. The bacillus from sputum seems to be more virulent than from any other part of the body. The lungs and the glands situated near the lungs are the most frequently attacked, because they are most exposed. In childhood the bones and joints are often the seat of the disease. Consumption is frequently found in the intestines, liver, spleen and other internal organs. In fact, no organ of the body is immune from attack.

Outside the body the bacillus is most frequently found in the dust of places occupied by consumptives or the apartments in which the patient lives. Factories, homes, hospital wards, schoolrooms, offices, churches, etc., in fact any place where many persons are allowed to expectorate on the floor, which is not properly cleaned, are the places where the germ is most prone to lurk. Of course, the bacillus may be found in one of the animals above referred to. The bacteria may be transmitted to the human body by milk from a tuberculous cow or by the individual eating infected beef or pork. The bacillus may enter the body through the skin, as in those who handle hides or infected food material and thus produce a local tuberculosis at the point of entrance. Most frequently it is contracted by persons very intimately associated with consumptive patients who do not take the proper precautions regarding their habits in relation to those around them.

The germs do not, as was for a long time thought, inhabit all the air of a room, but are confined to a comparatively small area around the patient.

It is a well-known fact that predisposition is an important factor in the causation of disease. In tuberculosis it is well marked. We have an inherited predisposition and an acquired predisposition. By inherited predisposition we mean a weakness of the person transmitted by one or both of the parents. Most frequently it is received from the mother who is suffering from consumption. The poisons generated by the bacilli in the body of the mother are carried by the blood through the placenta, and here the poison can pass to the fetal blood by osmosis. In the body of the fetus it produces the same weakness found in the mother. At birth the child is weak and anemic and frequently perishes from some of the acute diseases of childhood, if it does not contract consumption in its infancy.

In the acquired form, predisposition is caused by agencies outside the individual and independent of both parents. Many diseases produce a weakness in the body which, if the patient is exposed to infection from consumption, frequently tends to increase the probability of his contracting it. Among these may be mentioned measles, whooping-cough and scarlet fever of early childhood and diabetes and malaria of adult life. These are only causes in so far as they lower the vitality and interfere with the nourishment of the patient. Insanity is said to predispose to consumption, but when we consider the life of many in the asylum we must conclude that it is due, in a great measure, to the fact that persons are more exposed in such places, and of necessity institutions show a greater percentage of consumptive patients. Injury is an element quite frequently conducing to the development of consumption. In acquired predisposition the social conditions must be taken into consideration. In places where many persons are crowded together in dark, damp, insanitary quarters we may expect to find many cases of consumption. Persons of sedentary habits who do not get out in the air and sunshine furnish a large proportion of victims to this disease. This is true not only of persons who work at desks as clerks or secretaries, but also of persons engaged in any calling that requires the individual to be in a sitting posture most of the time and allows no time or chance to breathe good pure air, the individual being, in many instances, surrounded by tuberculous subjects, who throw out countless millions of germs by the filthy habit of spitting on the floor. The sputum dries and is carried, together with the bacilli it contains, in the form of dust to other persons who may be readily infected with the germ.

Heredity has for a long time been considered as one of the greatest factors in the causation of consumption. But in later years extensive experiments and observation by some of the best scientists of the world seem to prove that it is not so important a cause as infection. There are but three possible avenues through which consumption may be contracted by heredity, and through these three possible ways it seems of rather infrequent occurrence. Suffice it to say that heredity, although it is of some importance, does not demand our attention so much as infection. Many cases in early life are attributed to heredity when if the local condition and environments of the patient are studied it is found to be due to infection from parents or other tuberculous members of the family.

We now come to the most important element in the causation of consumption, viz., infection. By this is meant the process and conditions which allow the germs to be transmitted to and to grow in the body after birth. It is self-evident that so long as the individual remains free from germs, so long will he be free from the disease. It was thought in the past that the bacillus which causes consumption was to be found in all the air. That is, we all of us breathe into our lungs many germs with each breath, and the reason we do not contract the disease is that the vital forces of the body are not lowered sufficiently to allow the growth of the germs. But recent observations and experiments have proven that the germ does not exist universally in the air, but only in the immediate neighborhood of consumptives and in the dust of dwellings and rooms occupied by consumptives. Patients breathe very few germs into the air. Not many are thrown out by coughing. The greatest number are expelled by means of the sputum. There is

not much danger if the sputum is properly sterilized or disinfected. In other words, a consumptive patient is no menace, or, at least, not much, if he properly takes care of himself. Thus the patient, in a great measure, controls the danger of the disease to others around him.

If he be a laborer he spends much of his time away from home at his employment, so he does not run so great a danger of infecting members of his family. But if his place of work is not properly taken care of he is a source of danger to his fellow laborers. A tuberculous child, attending school in a schoolroom where there are no provisions made to prevent contagion, will endanger the lives of his schoolmates, especially those who sit in his immediate vicinity during school hours. In the family where a consumptive lives, the members of the family who nurse the patient are in danger. Very frequently we see an individual who has taken care of a consumptive person develop the disease and pass to a fatal termination, while those of the same family who have not been intimately associated with the patient have remained strong and robust. Many cases are on record which prove this almost beyond a doubt.

Consumption is quite frequently transmitted by marriage. It is often seen where one of the contracting parties is tuberculous and dies a short time after marriage the other rapidly develops consumption. This, together with other conditions, has led legislatures to consider the advisability of not allowing a marriage to take place unless both parties are pronounced in good health by a physician. As mentioned above, factories and workshops show a marked percentage in the death rate from consumption. This is due mostly to the habit of the employés of expectorating on the floor. The sputum soon dries. The floors are generally cleaned by sweeping instead of mopping, which disseminates the bacilli throughout the room. In a busy workshop the movements of the employés will scatter the germs more and more as the day goes on.

Among the most fertile sources of contagion are the overcrowding and the insanitary conditions found in tenement districts. Wherever the amount of air and sunlight for an individual is diminished there are favorable conditions for the development of tuberculosis. Not only do these conditions give a chance for the bacilli to enter the body, but it prepares a reception for it by lowering the nutrition of the body. This is shown to be true by the statistics of any prison that is overcrowded, while those which allow sufficient air and sunlight per individual do not show marked increase in the percentage of tuberculous subjects. Nurses in general hospitals do not show a marked increase in the number afflicted. But among those who are employed in institutions given over solely to the treatment of consumption the number contracting the disease is greater.

Physicians are not frequently the subject of the affliction, as they are in the patients' presence but a short time each day, and then at a time when the patient and his surroundings are the cleanest. The disease decreases in frequency from birth to the fifth year of age. Then it gradually increases as age advances up to sixty or seventy years. From birth up to the fifth year the child is very intimately associated with its parents, so if they or either of them are tuberculous the child is more exposed.

From the fifth to the tenth year the child is out in the air and sunshine at play much of the time. They do not come in contact with the disease so much and thus do not show so high a percentage of mortality. From twenty years on they are out in the world, engaged in various employments and social functions, and are thus necessarily more exposed to contagion. This is shown to be true by the gradually increasing mortality from this disease as age advances. Sex seems to play a certain rôle. From birth to about fifteen years of age the female is more afflicted, because she lives indoors more and thus comes in contact with more tubercular subjects and their abodes than her brother, who is out in the air and sunshine at work or play. But from twenty years on the male shows more deaths, because then he comes in contact with fellow laborers and employés in the various avocations of life, thus giving him a greater chance to contract the disease. Thus it is seen by actual experiment that infection is the cause of more

people contracting consumption than either heredity or predisposition. All three frequently work together, as do most causes of disease.

When the public comes to learn, and the owners of factories, etc., are made to know how to prevent the infection with the germs of the "great white plague," then we may reasonably hope that the death rate will be materially decreased. In no disease is it so important to recognize the condition in its inception as in consumption. For treatment to be most effective it must be applied in the very earliest stages of the disease.

The first step is to secure the best possible history of the patient. This does not mean simply to find if there is consumption in the family or if some of the patient's relatives have died of consumption, but the exact time of their deaths and if the patient was much associated with them. The condition of the home must be learned if possible. The conditions existing where the patient is employed should be carefully studied. In this way we may understand the general condition of our patient better and may often be able to advise changes which will do the patient and his family much good. The disease does not always begin in the same way. Sometimes the patient does not completely recover from an attack of acute bronchitis, pneumonia or some other acute disease, but continues to have a persistent rise of temperature, which is more marked in the afternoon. There is not the same degree of temperature each day, but still a slight rise. The patient does not gain strength, and if thoroughly examined will be found to have contracted tuberculosis. The persistent afternoon fever is a sign of great importance and should excite our suspicion to the extent of making immediately a careful examination of the patient. With this condition is found in most cases a persistent hacking cough, usually worse in the morning. Oftentimes it is but a continual clearing of the throat. This cough resists treatment and seems to grow progressively worse. Loss of weight and strength should also be carefully considered and should lead to a very complete examination. Frequently the first serious sign is a copious hemorrhage from the lungs. Whenever we have a hemorrhage from the lungs it should be the duty of every physician in charge of such a case to immediately investigate the condition thoroughly. Physical signs should be very carefully studied. Though the apices of the lungs are most always the seat of the disease, yet it is necessary to examine the entire lungs and, in fact, the whole body. One of the earliest symptoms is a prolonged expiratory sound. In the beginning of consumption one almost always finds dullness, diminished respiratory murmur, bronchial breathing and râles in the apices. The expansion of the chest is early compromised, so that if actual measurement is instituted it is found that the expansion is deficient on the affected side.

The most important is the finding of the bacilli in the sputum. This examination can be easily made and should be practiced more than it is. When the germs are found it is conclusive evidence that the patient is suffering from consumption. But not finding the germs does not exclude the disease. Often they are not in the sputum in the beginning of the disease, for no tubercle may yet have broken down, liberating the bacilli. But where patients show other indications of the disease the sputum should be examined many times and studied very carefully, for if the patient is suffering from consumption the bacilli will appear in the sputum. To show the importance of this step, it might be well to say that the State Board of Health now furnishes receptacles for the sputum and examines it free of charge, returning the results to the attending physician. In doubtful cases the sputum may be injected in the body of a guinea-pig or rabbit, and if after a certain time the animal is found to be suffering from consumption it is conclusive evidence that the patient has the disease. This is practiced mostly in hospitals and places where the material may be kept continually on hand.

Oftentimes consumption is detected by the tuberculin test. This is done by injecting the tuberculin made by Robert Koch, the discoverer of the bacilli. If after eight or twelve hours the patient does not react to the test by showing a rise of temperature, pain in head and back and general malaise, it may confidently be said that consumption does not exist in the individual. But people should be more careful and have a more thorough knowledge of the earliest symptoms of

consumption. They should be shown the necessity of an early recognition of the disease in order that treatment may do its maximum amount of good. They should not wait through ignorance until the period of effectual treatment has passed.

MANAGEMENT OF CONSUMPTION.

Dr. I. L. Firebaugh.

"In the beginning darkness enveloped the earth, when the spirit of God moved upon the face thereof and said, Let there be light, and there was light, and God saw that light was good."

Early in my professional career, while groping in the fog, mists and superstitions that have clung to me, more or less, all through my life, but were especially dense in my early manhood, I heard a voice as one calling from afar, asking what I most desired. I answered, "Light." What I and the profession need today is more light, and what the people ought to want on the subject of consumption is a great deal more light.

Tuberculosis was born in the cave, with our first parents, soon after the difficulty in the garden, and its course may be traced through the centuries in an ever-widening stream from that time to the present. Like the poor, it is ever with us, but it is not always of the poor, for it affects high and low alike and may attack any part of the body. Only he who loves the sunshine, who fears not the storm and who sees no terror in drafts and night air is free from danger from its infection. Paul Jones of the United States Navy, Robert Louis Stevenson, Schiller, Lawrence Stern, Paul Lawrence Dunbar, John Keats, Sidney Lanier and Artemus Ward in literature; Bichat and Laennec in medicine, and Spinoza in philosophy are only a few of the great who have perished from this disease in the prime of life. It is widespread, stealthy and deadly. It soothes the victim with hope, while it saps his vitality, and, like interest on borrowed money, it never sleeps. One-seventh of all who die perish from this disease alone. The germ is a plant and not an animal. It is not an inherited disease. Children of tuberculous parents may inherit a predisposition or tendency thereto, but they do not inherit the germ. It is a contagious disease. It is a preventable disease and it is a curable disease. A boy eats an apple, casts the core aside and it falls on fertile soil. The seed germinates and a tree is produced. A tuberculous subject spits upon the sidewalk, or in the house on the carpet, or any place where it may dry, be ground to dust and blown by the wind. It is drawn into the lungs of some passerby who is not immune, and we have another case of consumption.

Infection usually takes place in one of three ways: through uncooked food, through a wound in the skin and through the lungs, as shown above, which is by far the most common mode. It may also be contracted through kissing and through public drinking cups. The pipe of peace may be the pipe of tuberculosis also. One tuberculous subject may infect a half dozen or any number of the congregation of a church through the use of the communion cup at one sitting. Handshaking may convey the disease.

How is it preventable? By educating the people. First, it is always infection—sepsis, if you please. The seed must be sown. Teach the people the gospel of sunlight, sunshine and fresh air, both night and day, for the germ loves darkness and stagnation. Teach the people the gospel of sobriety, for the use of alcohol weakens resistance and renders them an easy prey. Teach every one the gospel of absolute cleanliness as understood by the surgeon, absolute asepsis wherever it can be had. Then there can be no infection. Teach the consumptive the golden rule, that he may not convey to others what he would not have them give to him; also teach him that infection comes through the sputum, in the sputum and by the sputum, and that there is no safety for him or his friends unless it is thoroughly disinfected and properly disposed of. The bodies of people dead of consumption should be enveloped in a sheet, wet with some antiseptic solution, and disposed of in the usual way; or, better still, cremated. Houses in which consumptive patients have lived and everything in them are dangerous and are not safe until thoroughly cleansed from top to bottom and rendered sterile. With the intelligent and educated this problem is comparatively easy.

With the less intelligent and uneducated I am not without hope. Constant dropping will wear away the rock; constant drilling will make them understand; but before that stupidity which makes Christian Science, Dowieism, Weltmerism and the patent-medicine evil possible, even the gods stand helpless. Still I have faith that in the end truth and right living, with sunshine, will prevail, and that the whole loaf will be leavened.

Now, as I have said, this is a curable disease. Some, though far advanced, will recover under the most unpromising circumstances, while others sicken and die when most favorably situated. Personal peculiarity and vital resistance accounts for this. The gospel of the treatment of consumption consists of good food, discipline with kindness, cleanliness, sunshine and fresh air night and day. He who is afraid of the draft and refuses the fresh air is doomed from the start and will do well to check his trunk to the first cemetery, for that is the end of his ticket.

There are no known specifics. The room should be open to the south, east or west all the time and have no unnecessary furniture, no carpets and no hangings; the floor must be kept clean with a mop, wet with an antiseptic solution, and the dusting done by a cloth moistened with the same. The room should be as near outdoors as it can be made. There should be a comfortable place to eat, bathe and dress. If the patient is free from fever and able to be out of bed, he should be comfortably dressed and should stay outdoors; if he has much fever he should be in bed or on a couch, but as near outdoors as possible. All sputum should be caught in a pocket-flask or on pieces of cotton. These pieces of cotton are to be used once and then placed in an envelope and burned when the patient returns to the house. Patients confined to bed should use a spittoon partly filled with an antiseptic solution in which to catch the sputum. Absolute cleanliness must prevail. Clothing removed from the bed and from the patient, as sheets, pillowcases, etc., should be dropped in an antiseptic solution or into boiling water before being put with the common wash.

Exercise should be just short of fatigue, always, and fever cases must be confined to bed until the fever is gone. Pain in the side may be met by a counter-irritant, tincture of iodin or by a belladonna plaster. Empyema demands the use of the knife and drainage, always. Osler says, "Make the patient fat and the disease will take care of itself," which is another way of saying, "Improve the nutrition and he will be well." No drugs which interfere with the comfort of the patient in any way are indicated. They will do more harm than good if they are used. Cod-liver oil and creosote will accomplish much in certain cases, but they must be used with sunshine, and not instead of it, and if they disagree with the stomach in the slightest degree are not to be thought of. Cream may often be used to advantage in the place of cod-liver oil. The kidneys should be looked after. Constipation and diarrhea are both to be regulated by diet. Cough mixtures are an abomination and do more harm than good. A simple solution of muriate of ammonia, without any opium, has often answered my purpose better than anything else. Improve the tone of the patient and the cough will be taken care of usually. Sometimes a little treatment to the throat or the pharynx will relieve the most distressing cough and leave the stomach in good condition.

Night sweats may be relieved by a little oxid of zinc or atropin, or a few drops of aromatic sulphuric acid, but the best way to relieve them is to improve the general condition of the patient. Iodoform is much prized in tuberculosis by surgeons and is the best application I have ever used when the larynx is invaded. Hemorrhage should be met by quietly, but firmly and kindly, placing the patient in a recumbent position, assuring him there is little danger, which is true, and giving him a little ergot, aromatic sulphuric acid or even a little common salt if necessary. Patent medicines, though extending the bud of promise, meet none of the indications and will accomplish nothing but harm, by exposing, not only the family, but all the friends, to infection, besides throwing away the patient's only chance of recovery. People with small means should not be sent from home to become the prey of avarice, greed and homesickness, for it is certain to end in disaster. A young man who has pluck, energy and application, with some grasp

of mind and something to occupy it, may do well when sent away, but it will be just as well not to burn the bridge. A husband and wife, though they may have the wealth of Crœsus, will do no good when separated, though they might do well together.

All these things are to be thought of when advising people to change climate. But not all get well and not all are able to leave home, even if they have the wealth. Suppose the patient grows constantly weaker, pulse more rapid, the feet swell, the voice grows weak, the shadows deepen and the rattles appear; what then? Why, more gospel in the shape of cleanliness and kindness; let it be the cleanliness that is absolute, for there is more danger of affecting others than ever before, and let it be the kindness that spells utility, that removes sordes from the teeth, that prevents bed sores, that adds yet a little comfort to the rugged path, that brings sunshine to his presence and gladness to his heart, so that when he slips into Paradise it will be with pleasing pictures of the last scenes of earth in his mind, that the contrast may not be too great.

OUR DUTY AS REGARDS CONSUMPTION.

C. E. PRICE.
EATON.

"We see dimly in the present what is small and what is great,
Slow of faith, how weak an arm may turn the iron helm of fate,
But the soul is still oracular; amid the market's din
List the ominous stern whisper from the Delphic cave within:
'They enslave their children's children who make compromise with sin.'"

—LOWELL.

The most prevalent and fatal disease of mankind is tuberculosis. One-seventh of all people fall victims to it. In America alone over 110,000 die of it annually; the ravages of wars are not its equal. But, as startling as are these statistics, the half has not been told, for tuberculosis travels under many other names. It attacks every organ and tissue of the body and may be named accordingly. Tuberculosis of the skin is called lupus; of the glands, scrofula; of the spine, spinal caries; of the hips, morbus coxarius; of the joints and bones, white swelling, and so on. So we have only measured a part of the anguish, poverty and sin which it may carry with it. Our insane hospitals, orphan asylums, homes for crippled children, reformatories and prisons are filled with the direct or indirect results of tuberculosis.

With these facts and figures before us, it does seem that we, as physicians, should not only be aroused to a plan of duty ourselves, but that it shall be impressed upon the minds of every lay person that they too can lend a hand in suppressing so great an evil.

"The indications for the prevention of consumption are: 1. To destroy the tubercle bacillus and prevent its spread in the dry state. 2. When once it has gained entrance to the body to eliminate it as quickly as possible or inhibit its growth by means of the vital energies. As the tubercle bacillus is the cause, and the only cause of consumption, it is the enemy to build fortifications against. It has been demonstrated that this germ is unable to grow and multiply, outside of the bodies of human beings and animals, except by the artificial cultivation in the laboratory. This is partly because it requires high bodily temperature for its development and partly because it is of slow growth and then is crowded out of existence by other micro-organisms which grow more rapidly. The bacillus gains entrance to the human system most often from tuberculous matter given off by consumptives, after it has become dry and pulverized. It is then taken up with the air and either directly inhaled or taken into the gastro-intestinal tract or ingested from infected meats or milk.

In an address by Dr. Francine before the students of the medical department of the University of Pennsylvania in 1905, he says: "With such statistics as we have as regards consumption, let us consider the interest of the state. This matter is of such vital interest and of such wide-spread importance that without aid from the state and municipal authorities, the profession, even seconded by an intelligent public, is powerless to stop the spread of this scourge.

We therefore turn, as we have a right to, to those bodies politic which assure to each and every one of us, life, liberty and the pursuit of happiness.

"The only question to ask is, how can the state help in this crusade? It can help in three most important and effective ways. 1. By establishing sanatoria for the segregation, treatment and employment of those cases which are too poor or ignorant to take care of themselves and in whose carelessness, squalor and filth lies the chief source of infection. 2. By rendering effective financial assistance to free, private or corporative sanatoria already in existence. 3. By requiring the registration of every case of tuberculosis within its confines.

"The state sees and performs wisely its duties in protecting us from the spread of small-pox, scarlet fever and diphtheria, the yearly ravages from which are not individually one-tenth of and in the aggregate do not equal the mortality of tuberculosis. Why, then should it not in certain simple, timely and reasonable ways see its way clear to these more urgent measures?"

The most important question in any disease or medical subject is that of prophylaxis or prevention. The interests or duties of the indvidual consumptive concern us as physicians. Our duty does not end with diagnosing the case, prescribing tonics, food, fresh air, etc. If proper precautions are not taken others are not only endangered but the patient may re-infect himself by his own carelessness and filthy habits, which may result from ignorance if not properly instructed by his medical adviser.

The consumptive patient is the origin and source of danger and it is within his power, by the exercise of a little care and a few simple rules of hygiene, which will in no way interfere with his comfort, to control absolutely the spread of the disease from himself. In the first place it is necessary that all secretions and excretions should be destroyed by fire or disinfected at once. The sputum, the greatest of all sources from which infection comes, should be expectorated in paper boxes or paper handkerchiefs, and at once burned. In fact he should never cough without a paper handkerchief being held over his mouth to keep particles from being forcibly thrown out. It is by allowing consumptives to expectorate upon floors, carpets, into spittoons and on streets, and then allowing this sputum to become dried and mixed with the air, that the friends, and in fact the community at large, are endangered.

It is the incipient cases and those in the last stage, when they are expectorating most and are too ill and careless to notice, as in all other infectious and contagious diseases, which are the ones that are the most dangerous to the community. It is those who walk the streets or who may work in the factory or attend school that are dangerous. It is in these places that medical inspection is necessary. Superintendents of workshops and superintendents of schools and teachers should have a knowledge of prophylaxis and hygiene, and should see that such persons do not expectorate upon the floor in places from which infection could be spread.

We have no factories in this immediate locality, but a few words as to school sanitation I know will not come amiss, as we have some teachers with us to-day. This subject, I think, may well be divided into three heads: 1. The influence of the school in the production of disease. 2. Educational methods for improving health. 3. Methods of prevention of disease applicable to schools.

Injury to health while in school may result from the following factors: (a) Insanitary arrangements of the school room. (b) Insufficient knowledge of hygiene on the part of the teacher. (c) Too much school work. (d) Worry, excitement and fatigue.

1. The school room should be large, well ventilated and well lighted, having sufficient windows and doors, so that the two latter ends can be accomplished. It should also have a high ceiling and a tight floor. A thermometer, in a convenient place in the room, is as essential a piece of furniture as a stove. Both are useless unless watched by the teacher.

2. The knowledge of hygiene on the part of the teacher is perhaps a delicate subject for the present meeting, but suffice to say that our County Superintendent should not give a certificate to an applicant not well enough versed in hygiene

and sanitation to watch both the conditions of the school room and school grounds and pupils. Here not only the teacher but the school boards are very negligent. Closets, weeds and all decaying vegetation on the grounds should be cleaned up. Over crowded rooms should not be permitted by the boards.

3. Too much school work. That the school curriculum is often overcrowded there is but little doubt. The remedy for this seems to be not so much a reduction of school hours as an adaption of the amount of work to the capacity of the individual pupil. And here the teachers in the ungraded schools must use their very best judgment. They must make a study of the disposition, ability and inclination of each individual pupil and not overtax the body or mind of any pupil.

4. The natural disposition of some children to worry on account of the strict requirements of the school in regard to punctuality, by the system of competitive markings, and often by the personality of the teacher. Worry in school children seems to be quite common and productive of certain amount of ill health. Here again, the teacher should study each individual pupil and avoid, as far as possible, all worry, excitement and fatigue.

Our second and third divisions are methods for prevention of disease. These can only be accomplished in a mild form in those districts where there is no medical inspection of school children as there is in some cities and states. But here again the teacher can be of great help to each pupil. It will require no extra time and if the teacher will keep in mind that she is, to a great extent, the custodian of her pupils' health, as she hears and sees them recite from day to day, it will be easy for her to tell that the pupil is ill.

It is the duty of every physician, for the good of his community, to see that not only the patient himself be instructed as regards prophylaxis, but that his nurses and friends be so instructed and made to help him carry out these rules. We have no statutory laws for consumptives, but there is a moral law which should be just as effective. The room in which a consumptive is sick should have as little furniture as possible, with no carpets, rugs, or draperies; the floors should be mopped with a damp cloth, not swept; the furniture not dusted, but wiped with a damp cloth, and these at once burned. The house in which a consumptive has lived should be fumigated and disinfected, the same as if he had died from small-pox or diphtheria.

In summing up then I would emphasize: 1. The absolute control and destruction of the sputum. 2. Care and cleanliness in the home, workshop or school in regard to dust and dirt, and in disinfection of articles contaminated by heat. 3. Tuberculous persons should sleep alone. The windows should be kept open both day and night, regardless of weather. 4. Physicians and others should wash their hands thoroughly after examining or being about the patient; nurses who care for these cases can not be too careful not to carry their hands to their lips. It is a good plan when in the house or room with such persons to breath as much as possible through the nose. 5. The bedding, towels and clothing should be frequently changed, especially if soiled, and put immediately in boiling water. Also the toilet vessels and table articles should be boiled after each use. It is the close attention to preventive means that will eradicate "The Great White Plague."

DISCUSSION.

Dr. T. N. Rafferty said that the American people were afflicted with three great curses, viz.: Consumption, cancer, and the patent medicine habit; that of these the first was both preventable and curable, the second not preventable, and only curable when taken very early, and the third when once firmly fixed was probably incurable. An early diagnosis of consumption is of the utmost importance because treatment then is almost certainly successful. The question as to whether the patient should be told he has tuberculosis should be answered, yes, by all means, as he will be much more likely to submit to proper treatment, and if too far advanced to be cured, will be willing to use proper precautions to protect his family and friends from infection. One of the most serious drawbacks to the successful treatment of these cases is that, during the curable stage,

they have wasted valuable time taking one or more of the much vaunted patent nostrums.

Dr. Frank Dunham quoted from Pogue of Denver in regard to one possibly bad effect of these public meetings on consumption, viz.: That in emphasizing the importance of outdoor and hygienic treatment, and the absence of a specific medicine, those afflicted were often driven to quacks and much advertised nostrums. He said that the individual members of our society should use every chance to combat this tendency, for there was no class of patients for which more could be done by the conscientious physician than those suffering from incipient tuberculosis.

M. E. Cox, City Attorney, read several selections from the Adams articles in *Collier's Weekly* on the patent medicine evil in connection with consumption which delighted and deeply impressed the audience. The ministers were asked to discuss the question, particularly in regard to the class of advertising carried by some of the religious papers. They unanimously denounced these fraudulent advertisements, all declaring that they were no longer accepted by their respective publications, and were being dropped as fast as existing contracts expired. The editor of a local paper expressed himself as being heartily in sympathy with the crusade against consumption, and said he was always ready to publish any literature in support of it.

Prof. J. C. Arnold, Superintendent of Robinson Public Schools, said in part:—I know I voice the sentiment of every citizen present when I say that it has been a great privilege to attend this meeting of the Crawford County Medical Society. The papers have been most instructive and the spirit of helpfulness shown by the medical fraternity most gratifying. While this auditorium is filled to its utmost capacity, yet those assembled are only a small fraction of the total population of Crawford County, and the great mass of the people can be reached only through the influence of those present. We see how sincere our local physicians are in imparting information on this very important subject. The teachers of the public schools, by their presence, show their interest in this movement toward checking the progress of the Great White Plague, and will leave this meeting with a feeling of increased responsibility and a broader understanding of their duty in the matter of general public instruction. Each person present has now a greater feeling of security and a clearer knowledge of the cause, treatment and means of prevention, which he will take away with him, not only for his own but also for the good of others. Our schools afford many opportunities for the spread of contagious diseases, such as the exchange of pencils, common drinking cups, dusty floors, and worst of all, the supplementary readers and extra text books to supply the pupils whose parents are too poor to provide the same. These should be frequently disinfected, as the very act of opening a book will carry the germs confined between the leaves to the nostrils and mouth of the child. In well regulated schools children are taught not to spit upon the floor. The platform covering the well, the drainage of yards and vaults, all should be looked after carefully. In schools supplied with city water the drinking fountain on each floor is much superior to cups. Every school building should be regularly fumigated by some standard method. There should be a regular physician in active practice on every school board who can keep the balance of the board awake on these points. Instruction in the causes and prevention of contagious diseases will ere long be made compulsory in our public schools. Patent nostrums now hear their death knell in the crusade that is being wrought against them. An enlightened people are beginning to investigate all things, and as a result the demagogue, the quack, and the grafter are being consumed by the righteous wrath of an indignant and abused public. Our fears are but commensurate with our ignorance. The desire to know is breaking down the barriers erected by the ignorant and superstitious about one of the noblest professions existing today. Such meetings as this are the advance steps toward that general public instruction which will result in eradicating the Great White Plague from our midst.

FORD-IROQUOIS COUNTIES.

The quarterly meeting of the Bi-County (Iroquois and Ford) Medical Society, held at Paxton, Ill. on Tuesday, March 6, last, was a gratifying success. A committee of local members met all incoming trains and escorted the visitors to the Hotel Middlecoff, where a sumptuous banquet was served at the expense of the Paxton physicians who, throughout the day, would not allow their guests to spend a cent. The inner man satisfied, all adjourned to the parlors of the hotel. Order was called by President Miller, the minutes of the last meeting were read and approved, and the following program was then presented. The President's address by Dr. D. W. Miller of Gilman was perhaps the most exhaustive and scholarly review of the progress made by medicine during the last quarter of a century to which the writer ever listened. As the merest mention of the marvels accomplished since the commencement of the microbian era is more than enough to evoke an outburst of responsive enthusiasm at any meeting of medical men, it was perhaps not strange that the president's exceptionally excellent paper was greeted with generous and prolonged applause and elicited none but favorable comment. "Some Cases from My Experience," by Dr. A. J. Newell of Onarga, was interesting and instructive, a story of actual observations, such as always holds an audience. "Tachycardia," by Dr. R. S. McKenzie of Gilman, told briefly all that is now known of functional heart disease and its causes, and was rich in therapeutic suggestions.

Dr. S. S. Fuller's essay on "Veratrum Viride in Eclampsia" was a valuable contribution to our therapeutic armamentarium in one of the most dreaded diseases that perplex physicians. In Dr. Fuller's experience no ill effects have followed the administration of this drug, in even heroic doses, sacrifice of the child was unnecessary, and the mortality was much less than under any other method of treatment.

All the papers were discussed in a manner and spirit which must have been pleasing to those who presented them, and as the debate was participated in by almost every member present, the educational value of the meeting can scarcely be overestimated.

Dr. A. J. Newell suggested that as Gilman is the most accessible and conveniently located point in the two counties all the meetings of the society should henceforth be held there. A majority, however, was opposed to the plan, which consequently was given up.

After a most enjoyable session the society adjourned to next meet at Gilman, Ill., on Tuesday, June 5, 1906. All present pledged themselves, if possible, to attend.

ROBERT LUMLEY, M.D.,
Secretary Bi-County Medical Society.

PERRY COUNTY.

The Perry County Medical Society was recently reorganized at Pinckneyville after remaining dormant since Nov. 15, 1901. It is the intention of the present officers and members to enlist the interest of all physicians in the county and induce them to become members. The next meeting is to be held in DuQuoin in April. The program committee consists of Drs. Pope and Adles, of DuQuoin, and Morrison, of Pinckneyville. An interesting program is promised by these members.

J. W. SMITH, *Secretary.*
W. L. MCCANDLISS, *Vice-President.*

SANGAMON COUNTY MEDICAL SOCIETY.

The Sangamon County Medical Society met in the office of Drs. Colby and Bullard, February 10, the room in the library not being available. Minutes of the previous meeting were read and approved. Dr. A. D. Taylor said that formerly he had relied on cocain to relieve the congestion and obstruction to the passages leading from the accessory sinuses, but now uses adrenal preparations. The

committee appointed to revise the constitution reported progress. It was voted that the new constitution be printed and a copy mailed to the members for their consideration. Dr. Bullard was elected to membership in the society.

Dr. Griffith presented the paper of the evening on "The Business Side of the Practice of Medicine." Among the many practical points presented in the paper the following demand special consideration: The essayist advises against working for known deadbeats, as they are not objects of charity, do not appreciate the work done and consume the time that could be employed in the care of the worthy. Maintain the schedule of charges. It is difficult to raise prices. A physician's ability is rated by his charges. Patrons want the best rather than the cheapest. Make statements plain and send them regularly. If they bring no response, send your collector. Eschew contract work. Let your actual services be the basis of your charges. Consider the patron's preference, when it is known, as to the method of collection. Generally a personal call by a collector is most efficient and satisfactory. Finally, do not sue on an account. As much can usually be accomplished by threatened suit; it is inexpensive and there is less tendency to try to injure your reputation.

The paper brought out a discussion, many of the points being opposed by some members. Dr. Dixon commended the paper in general, but deplored the fact that individual members would not maintain the fee bill. Dr. A. D. Taylor thought that the physician's interests would be better conserved by his dispensing his own medicines. Dr. Kreider took exception to this opinion. He also pointed out the fact that the fees and collections here are as good as in any city of its size in the state and better than in many. Dr. Lloyd expressed his intention to take no cases which he knew to be "deadheads," preferring to spend his time with his books and with patients who were honest. Dr. Paulin-Pagette referred to those patients who will pay one doctor and will not pay another. He advises being very frank with such, informing them that their bad record is known and that in order to get further service they must pay as they go.

Dr. Babb spoke of the position in which a physician is sometimes placed by a patron asking if he has not been overcharged by another physician. Dr. Prince related an incident illustrating the difficulty that may attend satisfying a judgment, even after a suit is won. He also detailed a method which has been efficient in his hands, but is somewhat limited in application. It assumed a certain amount of pride on the part of the patron and that he is permanently located. According to this method the patron who asks for time is allowed to fix a convenient date. The doctor then has him give a check on a bank in his own town for the amount and assures him that the check will not be presented for payment until the time fixed by the patron. The patron during this time is supposed to get and deposit the money to meet the check. Seeing his credit in jeopardy, he will make an extra effort to secure the money. When the time arrives for the check to be presented, the physician writes to the patron and impresses on him the importance of protecting his financial rating. The doctor says the method works well in properly selected cases.

Dr. Langdon resolved the practice of medicine into two elements—scientific and commercial. He said that the predominance of the one or the other element determined largely the character and success, professionally or financially, of the physician. He also believed that the young physician should take all cases as they come. Dr. Colby is convinced that the young physician is not warranted in taking "deadhead" cases.

Dr. Kreider presented an interesting case of tuberculosis of the radius in a young lady who had suffered from tubercular infection of the humerus of the other arm five years previously. The patient is otherwise in perfect health. The family history is negative. In the last invasion the diseased bone was chiseled away and the periosteum closed over a quantity of paste made of al. sesame, iodoform and spermaceti. As the bone reforms the paste is absorbed and the wound heals much more promptly and without the depression otherwise obtained.

Adjourned.

R. D. BERRY, *President.*
C. R. SPICER, *Secretary.*

SANGAMON COUNTY.

The Sangamon County Medical Society held its regular monthly meeting March 12, 1906. Dr. Dixon presented an interesting case in a man past middle age in whom, about ten weeks ago, a localized swelling occurred on the hand. It is not painful, is localized, pits on pressure and has not yielded to any treatment. It is likely of an angioneurotic character. Dr. Kelly reported a case of hysteria simulating labor. Dr. Langdon spoke of a similar case simulating pregnancy.

The committee on constitution and by-laws presented copies of the proposed instrument to the society, and, on motion of Dr. Dixon, consideration was laid over until the next meeting. Dr. Dixon presented a communication concerning a proposed sanitarium to be built in this city, also some correspondence between Drs. Egan, Blankmeyer and P. N. Bowman. From these letters it seems that the management of the proposed institution had secured reports from Dr. Blankmeyer on specimens of urine submitted for examination at the laboratory of the State Board of Health and had used these reports in a testimonial appearing in a circular advertising a secret method of treating kidney diseases. Dr. Bowman denied having any part in the advertising matter of the proposed sanitarium or any knowledge of Dr. Blankmeyer's report having been used in the testimonial. Dr. Egan, in a forceful letter, called Dr. Bowman to account and informed him that he must discontinue the use of the report for advertising purposes.

Dr. P. W. Monroe presented the subject of "Lumbar Puncture in Diagnosis and Therapeutics" in an interesting paper. He gave a brief history of the procedure from its origin and gave a general report on sixty cases done in his hospital service in New York City. The changes in the spinal fluid incident to the various infections of the meninges were noted as important means of differential diagnosis. The class of cases in which lumbar puncture has been of greatest use, from a therapeutic standpoint, is that in which there is excessive pressure on the cord and brain, although the author pointed out that the toxic-laden fluid might better be withdrawn in such cases as eclampsia. Certain skin lesions are reported to have been greatly improved. Instances were reported where solutions of silver salts injected into the lumbar portion of the spinal cord had been recovered in remote regions, showing that dissemination of the injected material really takes place. A doubt was expressed regarding the efficiency of remedies so administered. The most obvious results were the relief of symptoms due to pressure. The paper was practical and was well received. Drs. Kreider, Kelly, Dixon, Patton and Taylor took part in the discussion.

The meeting closed in order.

R. D. BERRY, *President.*
C. R. SPICER, *Secretary.*

VERMILION COUNTY.

The Vermilion County Medical Society met Monday evening, March 12, in the City Hall. Minutes of February meeting read and adopted. The following program was presented: "Emergency Therapeutics," O. W. Michael. Discussion led by Solomon Jones. "Emergency Surgery," P. H. Fithian. Discussion led by T. E. Walton.

A motion was made and carried that the president appoint a committee to confer with the city council to attempt the creation of an ordinance to enforce the proper slaughter, drawing and dressing of all fowl, fish or game offered for sale in the local markets. Drs. J. M. Guy, M. Sahud, E. B. Cooley, J. H. McIntosh and Solomon Jones were appointed on this committee.

The society, by a decided majority vote, approved the action and sanctioned the efforts of the Committee on National Medical Legislation in the following matters: 1. A department of public health, with representation in the cabinet. 2. The army medical reorganization bill. 3. The pure food and dairy bill. 4. Government regulation of indigent consumptives. 5. Government recognition of the services of Dr. James Carroll. 6. Bill for the relief of Mrs. William A. Hammond. Regarding the bill to restore the canteen in the army, the society took a unanimous stand opposing such a measure. Adjourned. E. E. CLARK, *Secretary.*

WILL COUNTY MEDICAL.

The regular meeting of the Will County Medical Society was held March 6, 1906, in the Auditorium Building, Joliet. The program was as follows: "The Use of the Forceps in Obstetrical Practice." This was a general discussion, led by President Nash. "The Open Method of Treatment of Fractures," by Dr. George M. Peairs, surgeon for the Illinois Steel Company at Joliet. Dr. Peairs has had a large experience with fractures with gratifying success, therefore this paper was a valuable one. "The Relation of Physician and Pharmacist," by Charles H. Avery, President of the Retail Druggists' Association of Chicago, was another practical and interesting paper. [For Dr. Peairs' paper on fractures, see p. 344.]

Members present: Drs. Nash, Cushing, Williamson, Dougall, Hummel, Brannon, Lennon, Cohenour, Peairs, Bowles of Joliet, Dr. Eldredge of Frankfort, McClannahan of Manhattan, Kingston of Lockport and Gilbert of Elwood. Visitors: Charles H. Avery of Chicago and A. W. Flexer, Joliet.

USE AND ABUSE OF DIPHTHERITIC ANTITOXIN.*

E. W. WEIS,

OTTAWA.

I take it for granted that there is not one of us who is not able to diagnose diphtheria when he sees it at any stage, for if he is in any doubt during the presence of an epidemic all suspicious cases of inflammation of the tonsils or the contiguous parts, or croup, should be classed as diphtheria. Should a subsequent culture determine the fact that diphtheria bacillus is not present no harm has been done. Per contra, however mild the case of diphtheritic infection, much good has been the result. My subject seems a superfluous one, and my only excuse for its presentation is a rather large personal experience with the disease in the last two months, and particularly my coming into contact in my capacity as health officer with a lamentable amount of ignorance. It is particularly timely owing to the fact that this disease is probably epidemic at present all over the middle west. In comparing the results of this epidemic with others, to our great grief and astonishment we find that the death rate is far beyond what it should be. You are all aware that Chicago, probably the original focus of infection, has on the average over one hundred cases per week, with a death rate of over 12 per cent. I understand that a city in the center of the state is now undergoing an epidemic of a very virulent type of diphtheria with a high rate of mortality, and this in the face of statistics heretofore given which show, in a large number of cases of diphtheritic infection, a mortality of only 8 per cent. Personally, I think 8 per cent. is entirely too high. I think that in all cases of diphtheritic infection, excepting the laryngeal variety, there should be a recovery of 100 per cent.; and where this is not the case, I state fearlessly and unequivocally, and without fear of successful contradiction, that some one has blundered, that some one is responsible. Whether this responsibility should rest with the parents or with the medical man I am not prepared to say, but somebody is at fault when a child dies to-day of diphtheritic infection. Since the first of last August I have come into contact with about fifty cases of diphtheritic infection in my capacity as health officer and physician. Some of these cases were so mild that they did not attract any special attention until after a grave one had asserted itself, one that was serious from the very beginning, and quite formidable when first noticed. I recall one case in particular. I was called at 6 o'clock in the evening and found the patient, about 12 years of age, suffering with a pain in her throat. Her temperature was 102½ F., but, upon examination, the throat presented simply a slight redness. The tonsils were not swollen. The patient had been subject to tonsillitis, and had a slight enlargement of the tonsils, but nothing was seen in the throat upon which a positive diagnosis of diphtheritic infection could be based. Owing to the fact that diphtheria was in the neighbor-

* Read before the North Central District Med. Association, December.

hood, and this child was attending school in which diphtheria had been found but a few days before, I stated to the mother that I was certain that this child was infected, but would wait until morning to complete my diagnosis. In the morning not only the tonsils but the uvula and the soft parts surrounding were covered by the characteristic membrane. Here was a case that looked vicious. It was vicious. It was one of those cases in which, under the old régime, nothing could be looked for except the usual flowers. Temperature was the same, 102½. I gave antitoxin at noon. At 4 p. m. the temperature had risen two-tenths of a degree. The next morning it was 99 F. The next day the patient was out of bed. In this house there were four other children. An immunizing dose of one thousand units established complete immunity, although one of the children had begun to complain of sore throat, and had a slight rise in temperature. This case, in its inception, is rather atypical, but the effect of the use of diphtheritic antitoxin is and was typical.

The question of the use of diphtheritic antitoxin can be summed up in a few words. Use it often, use it early, and use it in sufficient quantity. This is the secret of the curative properties of diphtheritic antitoxin. In the presence of an epidemic, if you are in doubt, use it. The amount used depends upon the appearance of each individual case. If you have a lingering doubt in your mind as to whether to use two or three thousand units, always use the larger dose. I do not allow the question of age to influence me at all. I would give a 2-year-old the same quantity as one 10 years old. I am governed entirely by the degree of intoxication. During the present epidemic I have not had a single death, and with one exception not a single case that continued over four days. The majority of them responded so quickly that they were convalescent practically on the second day. This experience is not unique and will not be where diphtheritic antitoxin is used as it should be.

I want to emphasize what I have stated above, that 100 per cent. should be the rate of recoveries in all cases of tonsillar, pharyngeal and nasal diphtheria. I will go a step further, and I realize fully in taking this step what the effect of this assertion will be when I state that this same rate of mortality ought to be maintained in the laryngeal variety. Our experience, however, unfortunately compels us to modify this statement. Doubt regarding the diagnosis is responsible for painful results. Doubt as to whether the child is suffering from membraneous croup of diphtheria or from the non-diphtheritic variety, puts off the use of antitoxin until it is too late to obtain full beneficial effects. The greatest mistake, however, is using it in too small quantity and not watching the temperature sufficiently close so as to repeat the dose within the prescribed time. You all know that in the laryngeal variety of whatsoever age, the very smallest quantity to be used should be four thousand units, and if the temperature shows that intoxication still exists within four to six hours, the same amount or a larger quantity should be given. It is a misuse of diphtheritic antitoxin in any case of laryngeal infection to give a small quantity, say of one or two thousand units. It gives diphtheritic antitoxin a black eye when a case of the character just mentioned is treated in the way described. At the present time, with the information so thoroughly disseminated by the manufacturers of antitoxin, there is no excuse for any medical man not using this remedy properly. My observation has shown that intelligent physicians who take no chances use antitoxin in the necessary quantity, immediately upon the recognition of the larnygeal involvement, and use it regularly, have gotten recoveries in every case. I regret to say that in several cases where rules were not followed death claimed the victim.

Do I make myself sufficiently clear? Do you understand that the use of diphtheritic antitoxin is followed by the best results, and the abuse of it by the worst possible results? I want you to know that, as a physician, I heartily sympathize with the possible errors and vacillating policy of physicians, due perhaps to the expense attached to the use of diphtheritic antitoxin, but as a sanitary officer I cannot and do not excuse the failure to use it properly.

NEWS OF THE STATE

John P. Nelson, of Fiatt, has removed to Briant.

Dr. L. W. Fulton, of New Berlin, has removed to Loami.

Dr. E. L. Hendricks has removed from Stillman Valley to Lanark.

Dr. H. H. Sherwood has sold his practice at New Windsor and has located at Bowen.

Dr. D. W. Cooper has given up his practice at Henning and has returned to Seymour, his old home.

Dr. and Mrs. C. W. Cargill, of Mason City, lost a son, Joseph, by drowning, Friday, March 16, 1906.

The city council of Mattoon will adopt an ordinance prohibiting the practice of mystic cults in that city.

Dr. E. N. Wheeler has disposed of his practice in Latham, Logan County, and will locate in Galesburg.

The Morgan County Medical Society is planning the organization of a local association for the prevention and cure of tuberculosis.

Dr. A. W. James, of Elkhart, has sold his practice to Dr. E. R. Van Meter, a graduate of St. Louis, who has practiced in Lincoln for about one year.

Dr. W. A. Evans delivered a popular lecture on the subject of "Treatment of Consumption" in the Chicago Public Library Building on March 31.

Dr. N. Leeds and Major Robert Finley of Danville left on March 15 for Panama, where Dr. Leeds will serve as contract surgeon in the government service.

Dr. H. C. Van Atta of Lerna and Dr. H. M. Little of Janesville were recently acquitted in the Effingham County Circuit Court on the charge of manslaughter.

Dr. H. A. Cuthbertson of 6242 Woodlawn avenue sailed the latter part of March for Europe, to take a three months' course of study in London, Paris and Vienna.

Owners of property on Michigan avenue, Chicago, are circulating a petition, protesting against the location of the new building of St. Luke's Hospital on the boulevard.

Noel Godfrey, 16-year-old son of Frank Godfrey, of Bloomington, has been adjudged insane, and sent to the asylum of Jacksonville, as the result of hypnotic experiments.

Dr. Carl Breus, professor of gynecology in the University of Vienna, will visit Chicago April 15. Dr. Breus and his wife are visiting the United States on an extended tour.

The Evanston City Council is considering an ordinance, introduced by Alderman James P. Grier, prohibiting the sale of all poultry which is not drawn at the time of slaughter.

Hillsboro Hospital Association, Hillsboro, has been incorporated and authorized to maintain a hospital. The incorporators are Frank H. Brown, Joseph M. Klar and Thomas M. Jett.

Diphtheria has been prevalent in the Juvenile Home for Boys, 625 West Adams street, Chicago, six cases having been reported since March 11 among the twenty-seven inmates of the Home.

Mrs. Anna Jefferson of Chicago has brought suit for $25,000 damages against Dr. John W. Lewis, 691 West Lake street, alleging that Dr. Lewis has failed to keep his promise to marry her.

An involuntary petition in bankruptcy was filed on March 3 against the Goat Lymph Sanitarium Association of Chicago. The liabilities are $4,000.00 and the tangible assets less than $2,000.00.

John P. Wilson, President of the Maurice Porter Hospital, Chicago, has purchased a site for the new hospital building, at Lincoln and Fullerton avenues. The price paid for the land was $80,000.

Dr. J. D. Hammond and wife of the Auditorium Annex, Chicago, left on March 31 for a three months' trip in Europe. Dr. Hammond expects to attend the International Congress at Lisbon, Portugal.

Dr. John Heywood was fined $50.00 and sent to the Bridewell by Justice Mahoney of Chicago recently. Dr. Heywood asked the court to send him to the Bridewell in order that he might overcome the cocain habit.

Adolph Sieffert, 7215 Himan street, Chicago, has sued the Auld Medical Company for $80.00 paid under a contract which, he asserts, provided that he would be cured of a disease which had been pronounced incurable.

Dr. Fenton B. Turck of Chicago has sailed for Europe for a trip of two months' duration. Dr. Turck will attend the International Medical Congress at Lisbon, Portugal, where he is on the program for a paper on "Gastric Ulcer."

Dr. S. V. Balderstone delivered an address recently before the Mothers' Club of Evanston, in which he urged a return to the simpler life of the past generations as necessary for the physical development of school girls and young women.

Dr. Robert H. Babcock delivered a lecture on pneumonia in the Chicago Public Library Building on Saturday, March 17. This lecture is

one of the series of free popular lectures given under the auspices of the Chicago Medical Society.

Dr. H. L. Peas, of Monmouth, Ill., who formerly practiced in Chicago, has been sued for $25,000 damages by a janitor in Chicago, who alleges malpractice in the treatment of a fracture of the hip which he suffered about two years ago.

Dr. W. A. Evans of Chicago lectured in Streator on March 14 on "Causes and Methods of Prevention of Tuberculosis." The lecture was given under the auspices of a local society organized about a year ago to prevent the spread of tuberculosis.

Dr. N. S. Davis delivered a popular lecture at the Public Library Building, Chicago, March 24, on "Exercise; Its Good and Ill Effects." The lecture was one of the popular course given under the auspices of the Chicago Medical Society.

After suffering ten days from erysipelas, Mrs. Lucia Due refused to allow a physician to attend her. Due and his wife have been conducting a so-called Christian Home Mission at 817 Armitage avenue. After being ill for two weeks, the woman succumbed to the disease.

A matinee for the benefit of the new Chicago Tuberculosis Institute was given at the Illinois Theater under the direction of Miss Olga Nethersole on April 5. The purpose of the entertainment was to secure funds to establish a dispensary for the treatment of tuberculosis.

Dr. Lucy Waite and Dr. Sarah Alexander, well-known women physicians of Chicago and members of the Chicago Medical Society, left, on April 3, for Lisbon, Portugal, to attend the coming meeting of the International Medical Congress. They expect to be gone about two months.

Lafayette Hayes, a colored man, was recently arrested and fined one hundred dollars by Justice Underwood of Chicago for selling water purported to be blessed and to contain miraculous power to cure all diseases. Hayes had been doing a large business by selling water to ignorant negroes at one dollar a bottle.

Dr. W. G. Willard, 1104 Washington boulevard, Chicago, and his family, consisting of his wife and four children, had a narrow escape from death by fire on March 17. The fire started early in the morning from an overheated furnace in the basement. The occupants of the house were rescued by firemen.

The report of the Board of Trustees of the Watertown Hospital for the quarter ending Dec. 31, 1905, shows that the cost per capita at Watertown was $30.88 for the 1,172 patients in the institution. The next lowest figure was furnished by the Hospital for the Incurable Insane at South Bartonville, where the cost was $34.18.

Harry Swanson, 7 years old, 1946 Hermitage avenue, Chicago, died on March 25, following the refusal of his parents, who are followers of

Dowie, to allow Medical Inspector Paul Morf to administer antitoxin. The Health Department refused to issue a death certificate under the circumstances, referring the case to the coroner's office.

Dr. Edward G. Burgman, 627 Fullerton avenue, was overcome by gas, on March 22, while searching for a leak in a gas pipe under the basement floor of his house. Henry Dunlap, who attempted to rescue him, and Mrs. Burgman, who also tried to save her husband, were both overcome. Policemen rescued the three of them with much difficulty.

Residents of Irving Park are endeavoring to compel market gardeners to remove the decaying stalks of vegetables which have heretofore been left in the ground. It is claimed that the large amount of decaying vegetable matter in the vicinity of Irving Park is responsible for the numerous epidemics of scarlet fever and diphtheria in that suburb.

At a recent meeting of the Kewanee Physicians' Club it was decided to reorganize the society under the name of the St. Francis Hospital Staff. Dr. W. H. Cole was elected president, Dr. W. D. Hohmann vice-president, and Dr. H. M. Heflin secretary. The report for the past year showed that 978 patients had been cared for in the hospital during that time.

Dr. George Campbell, 510 North Second avenue, Maywood, disappeared recently, after destroying all photographs of himself. Mrs. Campbell says her husband told her he had an office in the Masonic Temple, Chicago, with Dr. William Smith. The police have not been able to find any such man in the Masonic Temple nor to obtain any trace of Dr. Campbell.

Dr. Chalfant of Streator, president of the La Salle County Medical Society, and Dr. George Dicus, secretary of the Northern Illinois Medical Asscciation, are arranging for a district medical meeting to be held in Ottawa on April 20. One object of the meeting is to bring physicians of the surrounding counties together to listen to an address by Dr. J. N. McCormack.

Dr. E. R. Robinson, an elderly and probably insane physician, caused much excitement in the neighborhood of Twenty-seventh and State streets, Chicago, recently. Dr. Robinson, who, it is said, was injured several years ago in a street car accident, labored under the delusion that he was being followed by detectives in the employ of the street car company. He was arrested by two detectives and two large revolvers taken from him.

The Children's Hospital Society of Chicago has issued a report of the progress in the last three years. This society, of which Dr. Frank Billings is president, Judge Julian W. Mack, vice-president, and Dr. Frank S. Churchill, secretary, will endeavor next year to get a bill through the state legislature providing for the establishment of a state colony for epileptics in Illinois. The society is also planning the erection of a $500,000 hospital for children suffering from infectious diseases.

Dr. Robert A. Noble, of Bloomington, secretary of the McLean County Medical Society, has left for a year's study and travel in Europe. Mrs. Noble accompanied him. Dr. O. M. Rhodes, of Bloomington, has been elected to fill the vacant secretaryship.

Alderman Scully of the Chicago City Council has introduced an order in the Council, asking for an opinion from the Corporation Counsel as to the right of the city to establish and maintain a hospital for victims of delirium tremens. Alderman Scully says that many of the victims of alcoholism are seriously or fatally injured, due to lack of proper care and attention when confined in the cells of police stations.

The Chicago Medical Society, under the direction of the committee on criminal abortion, of which Dr. Rudolph Holmes is chairman, has again taken up the matter of illegal advertising in the daily papers and is endeavoring to secure the co-operation of the newspapers in the city in excluding these advertisements from the advertising columns. Two of the largest newspapers of Chicago have agreed to co-operate with the society.

Mrs. Rebecca Brown-Brown, of Decatur, wife of Dr. Everett J. Brown, died after a short illness of uremic coma, February 22, 1906. Mrs. Brown was the daughter of Dr. Lloyd Brown, of Jacksonville, one of the early practitioners of Morgan County, and through her father and husband has been a familiar figure to the medical profession in the central part of the state. She filled a high place in the social circles of Decatur. Dr. Brown has the sympathy of the entire profession in his great loss.

The Secretary of State has licensed the following companies: Klarck Institute Company, Chicago; capital, $10,000; treatment of inebriates; incorporators, Frederick Klarck, Nathan S. Smyser, John A. McKeown. Doctor Fosgate Company, Chicago; capital, $2,500; manufacturing medical and surgical instruments; incorporators, Charles E. Hunt, Daniel O. Fosgate, Ida M. Fosgate. National Medical and Appliance Company, Chicago; capital, $500; manufacturing surgical and medical appliances; incorporators, Benj. Leveing, A. Allen Boone, John T. Welch.

The Eastern Illinois Ophthalmological and Otological Society held its last meeting in Decatur March 6. The organization was completed and the by-laws approved. The following officers were elected: President, Dr. J. M. Sanders, Decatur; vice-president, Dr. Benjamin Gleeson, Danville; secretary-treasurer, Dr. C. P. Hoffman, Danville. The following cities are included in the district: Danville, Mattoon, Decatur, Champaign, Paxton and Bloomington. The society has at present a membership of twenty-one. The next meeting of the society will be held in Bloomington the first Tuesday in June, at 7:30 p. m., at Dr. J. Whitefield Smith's office.

Mrs. Marietta Chapin Pearsons, the wife of Dr. Daniel K. Pearsons, the millionaire philanthropist of Hinsdale, died at her home on Friday,

March 30, after an illness of several months. Dr. and Mrs. Pearsons were married in 1847, at which time Dr. Pearsons was practicing medicine in Chicopee, Massachusetts. In 1857 they came west and located in Ogle County, Illinois. In 1860 they removed to Chicago, where they resided until 1885, when they moved to their present home in Hinsdale. Mrs. Pearson's death will be a great loss to the various philanthropic enterprises in which she has been interested and which she and her husband have liberally supported.

The Chicago Health Department has issued a bulletin censuring physicians for lack of care in the matter of disinfection of premises occupied by patients before the infectious period has passed. Dr. Heman Spalding, chief medical inspector, says: "At the present time we have no less than twenty-five requests for disinfection from physicians, which are held up, because visits to the houses showed that the patients were still 'scaling' from scarlet fever and were, therefore, not ready for disinfection." The death rate for March, as shown in the same number of the bulletin, was 14.15, the lowest March death rate in fifty years, with the exception of March, 1901. The average March death rate is 18.66.

The Tuberculosis Institute of Chicago has been incorporated with Dr. Frank Billings as president, James H. Eckels as treasurer, E. P. Bicknell, secretary of the Chicago Bureau of Associated Charities, as secretary, and Dr. Henry B. Favill as chairman of the Board of Trustees. The work as outlined by the officers contemplates an educational department which is to carry on the campaign of public instruction regarding tuberculosis by means of lectures and the distribution of printed matter; a department for the establishment of sanitariums and camps, for the treatment of incipient cases, and a department which will conduct a dispensary for the treatment of patients suffering from this disease who are not able to leave the city.

The Brokaw Hospital of Bloomington has added some new equipments to the operating room. The management has purchased and installed a steam pressure dressing sterilizer, the Kny-Scheerer latest model. Among other utilities recently purchased are wall stands, triple basins, immersion stands, glass tables, etc. The hospital has just completed another successful year, as is shown by the Annual Report which is being published and will be ready for distribution in a few days. One of the practical features of this institution is the provision of a visiting nurse, whose duty it is to visit the poor of the city and render gratuitous assistance to the sick when needed. Miss Jessie Yancey is employed in this capacity and is doing very efficient work.

A movement to obtain from the next Illinois Legislature an appropriation for a colony of epileptics has been inaugurated by the Children's Hospital Society of Chicago. A meeting was held recently in the rooms of the Chicago Woman's Club, at which addresses were made by Dr. William P. Spratling, Medical Director of the Craig Colony for Epileptics at Sonyea, New York; Dr. V. H. Podstata, Superintendent of the Dunning Asylum, and Miss Jane Addams of Hull House. At the close of the meeting a resolution, asking the Legislature for an appropriation,

was introduced by Mrs. Laurens, Chairman of the Reform Committee of the Chicago Woman's Club, and was unanimously adopted. Dr. Spratling stated that the proportion of epileptics is about one to five hundred.

On March 22, 1906, the following members of the faculty of the American College of Medicine and Surgery (Medical Department of Valparaiso University) sent in their resignations: Henry S. Tucker, dean, Head Professor of Gynecology; Ross C. Whitman, Head Professor of Pathology; Victor J. Baccus, Head Professor of Surgery; Henry G. Anthony, Head Professor of Dermatology and Genito-urinary Diseases; Charles H. Francis, Head Professor of Ophthalmology; Henry F. Lewis, Head Professor of Obstetrics; J. Rawson Pennington, Professor of Rectal Diseases; George E. Baxter, Professor of Pediatrics; George J. Tobias, Professor of Hygiene and Preventive Medicine; J. McDonald Scott, Assistant Professor of Surgery; Mary O. Porter, Assistant Professor of Obstetrics; Marion Bertha McDonald, Assistant Professor of Otology; Arthur N. Mackey, Instructor in Dermatology; Charles D. Hulbert, Instructor in Dermatology.

The Appellate Court decided, on March 28, that N. News Wood, the so-called president and superintendent of the Christian Hospital, must pay a fine of $100.00 and serve a ten days' sentence in the county jail for violating the injunction of the court restraining him from using the name and photograph of Dr. John B. Murphy in advertising his hospital. The Christian Hospital was also fined $250.00. In May, 1903, Dr. Murphy received a letter from Wood, informing him that he had been elected president of the surgical staff of the Christian Hospital. As he had never heard of the hospital, and as his name was being used for the purpose of drawing other physicians into the scheme, Dr. Murphy secured a writ of injunction restraining the hospital from making any use of his name or photograph. As Wood continued to violate the injunction, he was brought into court on an attachment for contempt and fined. The case was appealed, with the result as given.

The examining board of Cook County Hospital has announced the names of the members of the graduating classes of 1906 who were successful in passing the examination for internes in the County and Dunning Hospitals. The successful candidates are: Lawrence M. Schmidt, R. L. Bartis, Fred Epplen, C. A. Katherman, E. P. Oldham, Eagan W. Fishman, James F. Churchill, Evan S. Evans, M. J. Moes, M. T. Easton, F. S. Stocking, A. H. Curtis, W. E. Fehlmann, Robert C. Menzies, J. R. Harder, H. E. Moek, Adolph B. Smith, M. J. Moldenhauer, Rawson J. Pickard, Thomas H. Boughton, Maurice Lewison, Nelle L. Storer, Harold B. Thompson, Ed J. Pengelly, B. S. Hutchinson, M. D. Peterson, R. H. Wellington, W. B. Dougherty, R. G. Stevenson, Ralph E. Keyser, James A. Barrett, Samuel Foman, C. E. Harris, Herbert B. Wellings, Mrs. H. W. Weightman, Overton Brooks, Preston R. Merrill, Mark Jampolis, E. I. Hottinger, Dirk Boumis, H. J. White, G. E. Goodrich, Louis J. Polloch, G. W. Hochrein, Wifliam J. Napheys, Walter K. Long, Roy W. Portens, Samuel B. Strong, W. E. O'Neil, J. S. Studebaker, Montague Francis, Eugene A. Spitz, Benjamin Berry.

NEW MEMBERS OF THE ILLINOIS STATE MEDICAL SOCIETY.

During the month of March the following physicians have been elected members of the Illinois State Medical Society:

ADAMS COUNTY.

G. L. Lierle, Quincy.

CALHOUN COUNTY.

G. A. Williams, Hardin.

CARROLL COUNTY.

J. B. Schreiter, Savanna.
C. P. Colehour, Mt. Carroll.

CHAMPAIGN COUNTY.

E. H. Kincheloe, Sidney.

COOK COUNTY.

H. H. G. Schmidt.
G. P. Berger.
Arthur M. Brianza.
Dwight Clark.
Arthur H. De Mendoza.
Louis W. Dunavan.
J. C. Dunn.
Jacob L. Eisendrath.
F. Ozro Elliott.
John Phillip Gibbs.
William F. Gorth.
F. G. Hopkins.
H. Luella Hukill.
C. E. Jones.
J. H. Kincaid.
A. C. Klentgen.
James M. Knox.
Louis C. Koier.
R. W. Lakemeyer.
C. W. Morrow.
Sarah A. Noble.
Thomas J. Palmer.
Ben. L. Reitman.
J. Schachter.
George M. Schaubel.
Louis Schultz.
Fred S. Selby.
W. J. Sieminowicz.
F. M. Vanatta.

FOX RIVER VALLEY.

W. A. Mason, Algonquin.
S. R. Ward, Richmond.
E. J. Vail, Elgin.
R. G. Scott, Geneva.

MADISON COUNTY.

Eugene Cahn, St. Jacobs.

MOULTRIE COUNTY.

Howard Hamilton, Bethany.
S. L. Stevens, Dalton City.

PIATT COUNTY.

D. M. Marville, Deland.
E. Y. Young, Mansfield.

ST. CLAIR COUNTY.

J. C. Smith, East St. Louis.
E. F. Schive, Mascoutah.

WINNEBAGO COUNTY.

F. W. Calkins, Rockford.
F. H. Kimball, Rockford.
H. B. Bailey, Rockford.

NEW MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION.

During the month of March, 1906, the following members of the Illinois State Medical Society became members of the American Medical Association:

Allen, H. S., New Boston.
Allin, F. W., Chicago.
Bacon, J. H., Peoria.
Beard, L. A., Polo.
Berger, G. F., Chicago.
Buford, C. G., Chicago.
Buss, F. J. Chicago.
Cook, E. A., Upper Alton.
Conlon, A. A., Chicago.
Cretors, F. G., Paris.
Champion, Joseph Van Meter, Mansfield.
Daum, E. F., Chicago.
Duncan, E. M., Marshall.
Eisendrath, J. L., Chicago.
Finch, J. H., Champaign.
Galloway, George, Chicago.
Gibson, O. N., Eldorado.
Graham, Ralph, Biggsville.
Greene, E. B., Chicago.
Griffith, J. C., Bushnell.
Groth, W. F., Chicago.
Haller, Joseph, Lanark.
Hoover, M. O., Chicago.
Konzelman, A., Chicago.
Kramp, A. F., Chicago.
Lane, Francis, Chicago.
Little, H. M., East St. Louis.
Ludwig, H. M., Chicago.
McCormick, F. C., Normal.
Moore, M. T., Chicago.
Motter, T. I., Chicago.

Noakes, T. V., La Prairie.
Olsen, Marie A., Chicago.
Palmer, T. J. Maywood.
Peck, W. H., Chicago.
Read, C. F., Geneva.
Reitman, B. L., Chicago.
Rischar, Eduard, Chicago.
Roberts, R. B., Augusta.
Sloey, James, Lebanon.
Slogn, Valborg, Chicago.
Smith, M. H., Colona Station.
Sogsworth, John, Wilmette.
Stewart, A. E., Chicago.
Train, John A., Chicago.
Trueblood, R. R., Lawrenceville.
Vanatta, F. M., Dunning.
Wright, Emily, Rock Island.
Yantis, D. E., Foosland.

MARRIAGES.

WILLIAM N. COOLEY, M.D., to Miss Ella Victoria Engstrom, both of Peoria, February 21.

DEATHS.

P. W. BLAKELEY, M.D., died at his home in Marion March 4.

LESTER M. BURROUGHS, M.D., died at Batavia, March 23, aged 80.

LEWIS M. WEBB, M.D., died at his home in Ewing, Illinois, March 9, aged 59.

FREDERICK W. BYFIELD, M.D., died at his home in Sorento, March 20, aged 76.

WILLIAM HILL, M.D., died at his home in Bloomington, Illinois, March 1, aged 77.

EUGENE S. ATWOOD, M.D., a graduate of Rush Medical College, Chicago, 1877, died in Chicago March 2.

NICHOLAS J. DORSEY, M.D., University of Maryland School of Medicine, 1847, died in Joliet March 11, aged 84.

NELSON H. CHURCH, M.D., Rush Medical College, Chicago, 1869, died at his home in Chicago, March 5, aged 63.

STEPHEN L. BRECKENRIDGE, M.D., St. Louis Medical College, 1879, died at his home in Riverside February 21, aged 44.

ALBERT D. HILL, M.D., Albany Medical College, 1879, died suddenly from heart disease, at his home in Chicago, March 4, aged 57.

JAMES HYSER HILL, M.D., University of Louisville Medical Department, 1850, died at his home in Springfield March 6, aged 81.

PAUL N. ZILLIKEN, M.D., a graduate of the Homeopathic Medical College of Missouri, died at Evansville, March 18, of nephritis.

RICHARD H. KENNING, M.D., a graduate of the College of Physicians and Surgeons of Manitoba, 1883, died at his home in Chicago, March 6, aged 58.

ADDISON H. FOSTER, M.D., a graduate of the College of Physicians and Surgeons of New York in 1886, died at his home in Oak Park March 3.

ROBERT E. LEE TADLOCK, M.D., graduate of the College of Physicians and Surgeons, Keokuk, Iowa, 1896, died from typhoid fever at his home in LaCrosse, March 15, aged 38.

ABEL L. DARLING, M.D., a graduate of the Cincinnati Eclectic Medical Institute in 1881, died suddenly at a hotel in Pekin from heart disease February 23, aged 55. Dr. Darling had been located for a number of years at Kilbourne.

Dr. Harry McKennan, of Paris, secretary of the Æsculapian Society of the Wabash Valley, died recently at his home of pneumonia. Dr. McKennan was one of the progressive practitioners of the eastern part community.

SAMUEL KEMP FALLS, M.D., a graduate of the Medical Department of McGill University, Montreal, 1878, for a number of years a member of the Faculty of Rush Medical College, Chicago, died suddenly in a street car in Chicago from cerebral hemorrhage March 22, aged 55.

IRA H. GILLUM, M.D., a graduate of Rush Medical College, Chicago, 1874, died at his home in Milford, March 7, from cerebral hemorrhage. Dr. Gillum was a soldier in the Civil War, a member of the Indiana Legislature, ex-chairman of the Iroquois County Board of Supervisors and a member of the Board of Aldermen of Milford.

LEONARD LAWSHEE SKELTON, M.D., a graduate of Northwestern University Medical School, Chicago, 1899, a member of the staff of the Illinois Eastern Hospital for the Insane, Kankakee, for several years, professor of physiology, Chicago College of Dental Surgery, professor of internal medicine and physical diagnosis, Chicago Clinical School, professor of nervous and mental diseases at the Illinois Medical College, Chicago, died at his home in Chicago, March 14, from uremia, aged 42.

THOMAS L. CATHERWOOD, M.D., was born at Abington, Va., July 5, 1827; died at Shelbyville, Ill., March 18, 1906. His early life was spent in Carlisle, Indiana. In 1843, at the age of 16, he began the study of medicine and attended lectures at Louisville, Ky. On April 13, 1847, he opened an office and began the practice of medicine at Middletown, Vigo County, Indiana, and continued for almost 59 years, until March 4, 1906, when, after having returned home from visiting some patients, he was suddenly stricken with paralysis, from which he died two weeks later. He moved from Middletown, Ind., to Moweaqua, Ill., in 1854, and to Shelbyville, Ill., 1876. In 1870 he attended a course in the Miami Medical College at Cincinnati and received the degree of M.D. from that institution. He was an active and energetic man and had a large practice up to the day he was stricken. As late as 1902 he took a postgraduate course in the Chicago Policlinic. He was a member of the American Medical Association and the Illinois State Medical Society, ex-president of the Central Illinois District Medical Society, and at the time of his death president of the Shelby County Medical Society.